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ABSTRACT

This report is a compilation of salary information from a variety of sources intended for comparison and accessibility. This edition contains a cross index of its contents for quick access to specific salary information. Data are reported in 138 tables organized under the following headings: starting salaries, salaries of experienced scientific and technical personnel, salaries of engineers, salaries of engineering technicians and technologists, federal salaries, and academic salaries. Statistical variables include sex, age, highest degree earned, years of experience, and employer. (SA)

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SALARIES

OF

SCIENTISTS • ENGINEERS AND TECHNICIANS

· · · A Summary Of Salary Surveys · · ·

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November 1979

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The Commission is charged with the collection, analysis and dissemination of reliable information pertaining to the manpower resources of the United States in the fields of science and technology; promotion of the best possible programs of education and training for potential scientists and technicians; and development of policies of utilization of scientific and technological manpower by educational institutions, industry and government for optimum benefit to the nation.

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SALARIES
of
SCIENTISTS • ENGINEERS AND TECHNICIANS

...a summary of salary surveys...

ninth edition

PREPARED BY

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1776 MASSACHUSETTS AVENUE, N.W.
WASHINGTON, D.C. 20036

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TABLE OF CONTENTS

PAGE

INTRODUCTION vi

● STARTING SALARIES 1

TABLE 1 - Number and Average Starting Monthly Salary Offers to Inexperienced Bachelor's Degree Candidates by Curriculum, 1978-79 and 1977-78 4

TABLE 2 - Average Starting Monthly Salary Offers to Bachelor's Degree Candidates by Curriculum and Sex, 1977-78 and 1978-79 5

TABLE 3 - National Average Monthly Salary Offers to Bachelor's Degree Candidates by Functional Area and Sex, 1978-79 and 1977-78 6

TABLE 4 - Number and Average Monthly Salary Offers to Inexperienced Bachelor's Degree Candidates in Non-Technical Curricula by Type of Employer and Sex, 1978-79 7

TABLE 5 - Number and Average Monthly Salary Offers to Inexperienced Bachelor's Degree Candidates in Technical Curricula by Type of Employer and Sex, 1978-79 7

TABLE 6 - Number and Average Monthly Starting Salary Offers to Inexperienced Master's Degree Candidates by Curriculum, 1978-79 and 1977-78 8

TABLE 7 - Number and Average Monthly Starting Salary Offers to Doctoral Degree Candidates by Curriculum, 1978-79 and 1977-78 9

TABLE 8 - Number and 1978 Median Monthly Salary of Graduates Employed Five Years Ago (Class of 1973) and Employed Ten Years Ago (Class of 1968) 9

TABLE 9 - Number and Average Starting Salary for New Graduates by Field and Degree, 1978 and 1979 10

CHART 1 - Overall Median Annual Starting Salaries for Chemists by Degree Level, 1969-79 . . 10

CHART 2 - Median Annual Starting Salaries for Chemists in Industry by Degree Level, 1969-79 . 10

CHART 3 - Median Annual Starting Salaries for Chemists in Colleges and Universities by Degree Level, 1969-79 10

TABLE 10 - Number and Median Annual Starting Salaries of Inexperienced Chemists and Chemical Engineers by Highest Degree Earned and Sex, 1979 11

TABLE 11 - Median Monthly Starting Salaries for Men and Women Chemists, Bachelor's Level, 1961-79 11

TABLE 12 - Number, Median and Mean Annual Starting Salaries of Graduate Chemists by Field of Highest Degree, 1979 12

TABLE 13 - Number and Median Starting Salaries of Chemists by Highest Degree Earned, Type of Employer and Sex, 1979 12

TABLE 14 - Number and Median Starting Salaries of Chemists and Chemical Engineers by Highest Degree Earned and Geographic Region, 1979 13

TABLE 15 - Number and Median Starting Salaries of Chemists and Chemical Engineers by Degree Level and Type of Employer, 1979 13

TABLE 16 - Number and Median Starting Salaries of Chemical Engineers by Degree Level, Type of Employer and Sex, 1979 14

TABLE 17 - Number and Median Starting Salaries of Minority Chemists and Chemical Engineers by Highest Degree Earned, 1979 14

TABLE 18 - Distribution and Median Monthly Starting Salaries of Physics Bachelor's Degree Recipients by Type of Employer and Sex, 1977-78 15

TABLE 19 - Median Monthly Starting Salaries of Graduate Physicists, 1977-78. 15

TABLE 20 - Median Beginning Salaries in Mathematics for Ph.D.'s by Type of Employer and Sex, 1977 and 1978 16

TABLE 21 - Median Beginning Salaries in Mathematics for New Ph.D.'s by Type of Employer, 1974-78 16

TABLE 22 - Number and Mean Monthly Starting Salaries of Nonsupervisory Employees Engaged in R & D Activities by Field of Degree and Degree Level, 1978 17

TABLE 23 - Number and Mean Monthly Starting Salaries of Nonsupervisory Engineering Bachelor's Degree Employees Engaged in R & D Activities by Working-As-Occupation, 1978 . . 17

TABLE 24 - Starting Salaries of Scientists by Field, Type of Employer and Highest Degree Attained, 1976-1977 18

TABLE 25 - Number and Mean Monthly Starting Salaries of Bachelor's Degree Technology Graduates by Curriculum, 1978 19

TABLE 26 - Number and Mean Monthly Starting Salaries of Associate Degree Technology Graduates by Curriculum, 1978 19

TABLE 27 - Starting Salary Offers to Graduates of Two-Year Colleges by Curriculum, 1977-78 and 1978-79 20

TABLE 28 - Starting Salary Offers to Graduates of Two-Year Colleges by Type of Employer, 1977-78 and 1978-79 21

PAGE

- SALARIES OF EXPERIENCED SCIENTIFIC AND TECHNICAL PERSONNEL 22

TABLE 29 - 1978 Median Annual Salaries of Scientists and Engineers Who Were in the Labor Force in 1970 by Field and Sex 26

TABLE 30 - 1978 Median Annual Salaries of Scientists and Engineers Who Were in the Labor Force in 1970 by Field and Degree Level 27

TABLE 31 - 1978 Median Annual Salaries of Scientists and Engineers Who Were in the Labor Force in 1970 by Field and Type of Employer 28

TABLE 32 - 1978 Median Annual Salaries of Scientists and Engineers Who Were in the Labor Force in 1970 by Field and Primary Work Activity 29

TABLE 33 - 1978 Median Annual Salaries of Scientists and Engineers Who Were in the Labor Force in 1970 by Field and Years of Professional Experience 30

TABLE 34 - 1978 Median Annual Salaries of Scientists and Engineers Who Were in the Labor Force in 1970 by Field and Age 31

TABLE 35 - Median Annual Salaries of Doctoral Scientists and Engineers by Field and Type of Employer, 1977 32

TABLE 36 - Number and Median Annual Salaries of Doctoral Scientists and Engineers Employed in Educational Institutions by Field, 1973-1977. 33

TABLE 37 - Number and Median Annual Salaries of Doctoral Scientists and Engineers Employed in Business and Industry by Field, 1973-1977 34

TABLE 38 - Number and Median Annual Salaries of Doctoral Scientists and Engineers Employed by the Federal Government by Field, 1973-1977 35

TABLE 39 - Median Annual Salaries of Doctoral Scientists and Engineers by Field and Primary Work Activity, 1977 36

TABLE 40 - Median Annual Salaries of Doctoral Scientists and Engineers by Field and Geographic Area, 1977 37

TABLE 41 - Median Annual Salaries of Doctoral Scientists and Engineers by Field and Years of Professional Experience, 1977. 38

TABLE 42 - Median Annual Salaries of Doctoral Scientists and Engineers by Field and Age, 1977 . 39

TABLE 43 - Median Annual Salaries of Doctoral Scientists and Engineers by Field, Sex & Race, 1977 40

TABLE 44 - Number and Mean Monthly Salaries of Bachelor's Degree Nonsupervisory Scientists and Engineers by Working-As-Occupation and Selected Years Since Degree, 1978 . . . 41

TABLE 45 - Number and Mean Monthly Salaries of Master's Degree Nonsupervisory Scientists and Engineers by Working-As-Occupation and Selected Years Since Degree, 1978 . . . 42

TABLE 46 - Number and Mean Monthly Salaries of Doctorate Degree Nonsupervisory Scientists and Engineers by Working-As-Occupation and Selected Years Since Degree, 1978 . . . 43

TABLE 47 - Number and Mean Monthly Salaries of Nonsupervisory Scientists and Engineers by Degree Level, Type of Establishment, and Selected Years Since Degree, 1978. . . 44

TABLE 48 - Number and Mean Monthly Salaries of Nonsupervisory Scientists and Engineers by Highest Degree Field and Selected Years Since Degree, 1978 45

TABLE 49 - Number and Mean Monthly Salaries of Bachelor's Degree Nonsupervisory Scientists and Engineers by Working-As-Occupation, Sex, and Selected Years Since Degree, 1978 . . 46

CHART 4 - Salaries of All Scientists and Engineers Employed in Research and Development by Profession, 1979 47

CHART 5 - Salaries of All Scientists and Engineers Employed in Research and Development by Type of Employer and Sex, 1979 49

CHART 6 - Salaries of Scientists and Engineers Employed in Research and Development by Years of Experience, 1977-79 49

TABLE 50 - Number and Average Salaries for Selected Professional, Administrative, Technical and Clerical Occupations in Private Industry, March 1979 50

TABLE 51 - Number and Average Salaries for Selected Professional, Administrative, Technical and Clerical Occupations in Private Industry, March 1978 51

TABLE 52 - Median Annual Salaries of Chemists and Chemical Engineers of All Experience Levels by Degree Level, 1973-1979 (Weighted Average) 52

TABLE 53 - Median Annual Salaries of Chemists by Work Function, Degree Level and Sex, 1979 . 52

TABLE 54 - Median Annual Salaries of Chemists by Type of Employer, Degree Level and Sex, 1979 . 53

TABLE 55 - Median Annual Salaries of Chemists by Degree Level, Specialty, and Sex, 1979 . . 54

TABLE 56 - Median Annual Salaries and Percentage Distribution of Chemists by Geographical Region and Degree Level, 1979. 54

PAGE

TABLE 57 - 1979 Median Annual Salaries of Industrial Chemists and All Chemists by Degree Level and Years of Experience . . . 55

TABLE 58 - 1979 Median Annual Salaries and 1978 Income of Chemists by Degree Level and Years of Experience . . . 55

TABLE 59 - Median Salaries of Chemists by Degree Level and Years of Experience, 1979 . . . 56

TABLE 60 - Median Salaries of Chemists in Industry by Degree Level, Sex & Years of Experience, 1979 56

TABLE 61 - Median Annual Salary of Members of the AIC By Type of Employer and Degree, 1978. . 57

TABLE 62 - Average National Weekly Salaries in Data Processing by Job Description, 1978 & 1979 . 57

TABLE 63 - Average Weekly Salaries of Data Processing by Job Description & Geographic Area, 1979 58

TABLE 64 - Number and Salaries of Selected Computer and Data Processing Personnel by Geographic Area and Sex, March 1978 . . . 59

TABLE 65 - Average Annual Salaries for Selected Positions in State and Territorial Public Health Laboratories by State, 1977 . . . 60

TABLE 66 - Average Annual Salaries for Selected Positions in State and Territorial Public Health Laboratories, 1974 and 1977 . . . 61

- SALARIES OF ENGINEERS . . . 62

TABLE 67 - Number and Median Annual Salaries of Engineers by Type of Industry and Selected Years Since Baccalaureate, 1978 . . . 65

TABLE 68 - Number and Median Annual Salaries of Engineers by Type of Employment Group and Selected Years Since Baccalaureate, 1978 . . . 66

TABLE 69 - Number and Median Annual Salaries of Engineers by Geographic Area and Selected Years Since Baccalaureate, 1978 . . . 66

TABLE 70 - Median and Mean Salaries of Engineers by Type of Employment Group, 1976 and 1978 . 67

TABLE 71 - Median Salaries of Engineers by Type of Employment Group and Supervisory Status, 1978 67

TABLE 72 - Number and Median Annual Salaries of Engineers by Highest Degree and Selected Years Since Baccalaureate, 1978 (Weighted National Average) . . . 68

TABLE 73 - Median and Mean Salaries of Engineers by Geographical Region, 1976 and 1978 . . . 68

CHART 7 - Trends in Selected Median Salaries of Engineers, 1956-1978 . . . 69

TABLE 74 - Median Income of Professional Engineers by Branch of Engineering and Year of Entry into Profession, 1977 . . . 69

TABLE 75 - Median Income of Professional Engineers by Type of Work Performed, 1973-1977 . . 70

TABLE 76 - Median Income of Professional Engineers by Branch of Engineering, 1973-1977 . . 70

TABLE 77 - Median Income of Professional Engineers by Level of Education, 1973-1977 . . . 70

TABLE 78 - Median Income of Professional Engineers by Field of Employment and Year of Entry into Profession, 1977 . . . 71

TABLE 79 - Median Income of Professional Engineers by Type of Work and Year of Entry into Profession, 1977 . . . 71

TABLE 80 - Median Income of Professional Engineers by Level of Education and Year of Entry into Profession, 1977 . . . 72

TABLE 81 - Median Income of Professional Engineers by Field of Employment, 1973-77 . . . 72

TABLE 82 - Median Income of Professional Engineers by Field of Employment and Years of Experience, 1977 . . . 73

TABLE 83 - Median Income of Professional Engineers by Region, 1973-77 . . . 73

TABLE 84 - Median Income of Professional Engineers by Employment Status and Year of Entry, 1977 73

TABLE 85 - Number and Total Annual Income of Industrial Engineers by Type of Employer, 1978 . 74

TABLE 86 - Number and Total Annual Income of Industrial Engineers by Geographic Area, 1978 . 75

TABLE 87 - Number and Total Annual Income of Industrial Engineers by Years of Experience, 1978 . 75

TABLE 88 - Number and Total Annual Income of Industrial Engineers by Degree Level, 1978 . . 75

TABLE 89 - Number and Total Annual Income of Engineers Employed in Manufacturing by Education Level, 1978 . . . 76

TABLE 90 - Number and Total Annual Income of Engineers Employed in Manufacturing by Years of Experience, 1978 . . . 76

TABLE 91 - Number and Total Annual Income of Engineers Employed in Manufacturing by Geographic Area, 1978 . . . 76

TABLE 92 - Number and Total Annual Income of Engineers Employed in Manufacturing by Type of Job Function, 1978 . . . 77

PAGE

TABLE 93 - Number and Total Annual Income of Engineers Employed in Manufacturing by Type of Employer, 1978 77

TABLE 94 - Number and Total Annual Income of Managers Employed in Manufacturing by Education Level, 1978 77

TABLE 95 - Number and Total Annual Income of IEEE Engineers Employed Full-Time in Area of Primary Technical Competence by Geographic Area, 1978 78

TABLE 96 - Number and Total Annual Income of IEEE Engineers Employed Full-Time in Area of Primary Technical Competence by Type of Degree, 1978 78

TABLE 97 - Number and Total Annual Income of IEEE Engineers Employed Full-Time by Area of Primary Technical Competence, 1978 79

TABLE 98 - Number and Total Annual Income of IEEE Engineers Employed Full-Time in Area of Primary Technical Competence by Job Function, 1978 80

TABLE 99 - Number and Total Annual Income of IEEE Engineers Employed Full-Time in Area of Primary Technical Competence by Years of Experience, 1978 80

TABLE 100 - Number and Mean Annual Income of IEEE Engineers Employed Full-Time in Area of Primary Technical Competence by Industry or Service of Employer, 1978 81

- SALARIES OF ENGINEERING TECHNICIANS AND TECHNOLOGISTS 82

TABLE 101 - Number, Median and Mean Annual Salaries of Engineering Technicians by Years Since Graduation, 1979 (Weighted National Data) 83

TABLE 102 - Number, Median and Mean Annual Salaries of Engineering Bachelor of Technology Graduates by Years Since Graduation, 1979 (Weighted National Data) 83

TABLE 103 - Number and Median Salaries of Engineering Technicians by Type of Employment and Selected Years Since Graduation, 1979 84

TABLE 104 - Number and Median Salaries of Engineering Technicians in Industry by Geographic Area and Selected Years Since Graduation, 1979 85

TABLE 105 - Number and Median Salaries of Engineering Technicians by Type of Employment and Selected Years Since Graduation, 1979 85

TABLE 106 - Number and Median Salaries of Engineering Bachelor of Technology Graduates by Type of Employment and Selected Years Since Graduation. 1979 86

- FEDERAL SALARIES 87

TABLE 107 - Annual Salaries of Federal Workers Under the General Schedule by Grade and Step Levels, October 1, 1979 88

TABLE 108 - Annual Salaries of Federal Workers Under the General Schedule by Grade and Step Levels, October 1, 1978 89

TABLE 109 - Number, Median Grade and Average Salary of Federal White-Collar Workers by Sex, All Areas, October 1978 90

TABLE 110 - Comparison of Average Annual Salaries in Private Industry with Salary Rates for Federal Employees Under the General Schedule, March 1978. 94

TABLE 111 - Comparison of Federal and Private Average Salaries in Selected Jobs, 1978 95

- ACADEMIC SALARIES 96

TABLE 112 - Weighted Average Salaries of Faculty by Academic Rank, Category, Type of Affiliation and Sex, 1978-79 99

TABLE 113 - Weighted Average Faculty Compensation by Academic Rank, Category, and Geographic Region, 1978-79 100

TABLE 114 - Weighted Average Faculty Salaries by Region, Category and Academic Rank, 1978-79 . 101

TABLE 115 - Average Salary, Fringe Benefits and Compensation of Full-Time Faculty Members in Institutions of Higher Education by Rank, 1978-79 102

TABLE 116 - Weighted Average Faculty Salaries and Compensation in Preclinical Departments of Medical Schools by Type of Affiliation and Academic Rank, 1978-79 102

TABLE 117 - Average Salary, Fringe Benefits and Compensation of Full-Time Faculty Members in Preclinical Departments of Medical Schools by Academic Rank, 1978-79. 102

TABLE 118 - Number and Average Salary of Full-Time Instructional Faculty in Higher Education on 9-Month Contracts by Type of Institution, Rank and Sex, 1978-79 103

TABLE 119 - Number and Average Salary of Full-Time Instructional Faculty in Higher Education on 12-Month Contracts by Type of Institution, Rank and Sex, 1978-79 104

TABLE 120 - Mean Salary of Full-Time Instructional Faculty in Higher Education by Institutional Control, Length of Contract and Academic Rank, 1977-78 and 1978-79 105

PAGE

TABLE 121 - Number and Mean Salaries of Full-Time Instructional Faculty (All Ranks Combined on 9-10 Month Contracts) in Public Institutions of Higher Education by Sex of Faculty Members and State, 1977-78 106

TABLE 122 - Number and Mean Salaries of Full-Time Instructional Faculty (All Ranks Combined on 9-10 Month Contracts) in Private Institutions of Higher Education by Sex of Faculty Members and State, 1977-78 107

TABLE 123 - Median Annual Salaries of Doctoral Scientists and Engineers Who Are University or 4-Year College Teachers by Field, Salary Base and Academic Rank, 1977 108

TABLE 124 - Extra Salaries Received by Faculty Members by Discipline and Rank, 1977-78 . . 110

TABLE 125 - Number and Mean 9-10 Month Salaries of Full-Time United States Faculty in Doctoral Departments of Psychology by Geographic Region, Rank and Years in Rank, 1978 . . 111

TABLE 126 - Number and Mean 9-10 Month Salaries of Full-Time United States Faculty in Master's Departments of Psychology by Geographic Region, Rank and Years in Rank, 1978 . . 111

TABLE 127 - Number and Mean 9-10 Month Salaries of Full-Time United States Faculty in Graduate Departments of Psychology by Department, Rank and Years in Rank, 1978 111

TABLE 128 - Number and Mean 9-10 Month Salaries of Full-Time Faculty in United States Departments of Psychology by Rank and Years in Rank, 1978 112

TABLE 129 - Median Annual Salaries of Chemists in Academic Institutions by Type of Employer and Rank, 1979 112

TABLE 130 - Number and Median Salary Ranges for Doctoral Degree Mathematics Teachers by Rank and Type of Institution, 1978-79 and 1977-78 113

TABLE 131 - Number and Median Salary Ranges for Non-Doctoral Degree Mathematics Teachers by Rank and Type of Institution, 1978-79 and 1977-78 114

TABLE 132 - Number and Average Calendar Year Salaries of Faculty in Colleges of Pharmacy by Years in Rank and Academic Rank, 1978-79 115

TABLE 133 - Average Calendar Year Salaries of Faculty in Colleges of Pharmacy by Discipline and Academic Rank, 1978-79 115

TABLE 134 - Number and Median Annual Salaries of Faculty in All Engineering Schools on Nine-Month Contracts, by Rank and Selected Years Since Baccalaureate, 1978 116

TABLE 135 - Number and Median Annual Salaries of Faculty in All Engineering Schools on Twelve-Month Contracts, by Rank and Selected Years Since Baccalaureate, 1978 116

TABLE 136 - Number and Median Salaries of Engineering Faculty by Rank, Type of Institution, and Months on Contract, 1978 117

TABLE 137 - Number and Median Salaries Paid to Administrative Officers in Higher Education Institutions by Position and Control, 1978-79 118

TABLE 138 - Estimated Average Annual Salary of Elementary and Secondary Public School Teachers by State, 1978-79 120

BIBLIOGRAPHY OF SOURCES 121

INDEX 123

INTRODUCTION

Salary surveys are conducted by a number of organizations, including agencies and departments of the federal government, professional scientific and engineering societies, educational associations, magazine publishers, and other professional and trade associations. Some surveys deal directly with salaries of scientists and engineers while others cover much broader occupational areas. Most salary surveys conducted by professional scientific and engineering societies cover only their own membership. However, since such societies generally represent the majority of the population in their disciplines, the results may be generalized to these professional populations. Some smaller salary surveys in specific disciplines are included for comparative purposes.

Although most of the salary information in this report is available from its original sources, this compilation brings together salary information from a variety of sources both for purposes of comparison and for easier accessibility. For the first time, this edition contains a cross index of its contents for quick access to specific salary information.

For a number of reasons, exact correlation of results of different surveys is generally not possible without access to the original data. The statistical bases used in various surveys include medians, means, percentiles, and averages, which are not directly comparable. The time periods covered by the surveys include calendar year, fiscal year, academic year and quarterly segments starting at various points in the year. The base and time period for each table is noted with the table and/or in the introductory statement for the section in which it appears.

Where comparisons of similar data are possible, some apparent discrepancies appear. No attempt has been made to evaluate the relative reliability of the samples, but the number of people in the sample is given when it is available. In some cases, the number of respondents listed within the table will not match totals for all fields or all groups, because some areas not applicable to science and engineering have been omitted, or because only selected variables have been included.

In general, only the most current salary information has been included from each data source, with the trend data limited to the survey immediately preceeding the current survey. Long trend salary information may be examined by referring to earlier editions of this publication, which has been prepared biennially since 1964. Copies of most of the first eight editions of *SALARIES OF SCIENTISTS, ENGINEERS AND TECHNICIANS, A Summary of Salary Surveys* are available from the Scientific Manpower Commission.

The source of the data is given at the top of each table. Full bibliographic references for each data source begin on page 121.

This report was prepared by Eleanor Babco, Administrative Assistant of the Scientific Manpower Commission. Special thanks are extended to Ernie Will and the SMC staff for their invaluable assistance.

STARTING SALARIES

- The *College Placement Council's A STUDY OF 1978-79 BEGINNING OFFERS* reports beginning salary data based on job offers (not acceptances) made to graduating college students at all degree levels in selected curricula and graduate programs during the normal recruiting period, September 1978 to June 1979. Data are submitted on an ongoing basis by 161 colleges and universities throughout the United States. Except for teaching, job openings in a broad range of functional areas within employing organizations in business, industry, government, and nonprofit and educational organizations are covered by the survey. Reports are issued three times a year - January, March and July.

The final report of the 1978-79 recruiting year showed college recruiting activity strong at the bachelor's level, in what was probably the most active year in the 19-year history of the survey. Bachelor's degree candidates received 17% more offers than in 1977-78, although offers at the master's level dropped 16% while doctoral offers declined 7%.

Engineering continued to dominate the survey, accounting for 61% of all offers at the bachelor's level. At $1,793 per month, B.S. petroleum engineers topped all of the master's degree averages, and stood 8% higher than the $1, 642 average salary recorded by chemical engineering, the next highest bachelor's discipline. Overall, increases in engineering salaries over 1977-78 ranged from 7% to 11%. In the sciences, computer science graduates registered the highest average offers at $1,411, followed by other physical and earth science graduates. At the low end of the scale, bachelor's candidates in the humanities and other social sciences recorded the two lowest average dollar offers at $983 and $972 per month respectively (Table 1)

Average dollar offers to women were slightly higher than those to men in seven of 24 curricula - all in engineering. However, offers to women comprised less than 2% of the engineering volume. Women received about the same average offers as men in accounting, and lower offers in the remaining curricula (Table 2).

By functional area, the bulk of the offers were for engineering jobs. The engineering average dollar offer was also the highest - $1,529 for men and $1,563 for women. Next highest average dollar offers were made to graduates in the EDP field (Table 3).

Tables 4 and 5 show number and average monthly salary offers to men and women bachelor's degree candidates by type of employer. Bachelor's candidates in technical curricula had higher average dollar offers from all types of employers; and offers to men were higher in all cases than those made to women.

At the master's level, the engineering category was down 9%; graduate business programs were off 17%; scientific disciplines decreased 23%; and humanities and social sciences dropped 33%. Women accounted for 19% of the total master's volume, up slightly from 1977-78. Overall, the number of offers received by women declined 13%, while offers to men fell 16% below 1977-78. Leading the master's dollar averages again were graduates in chemical engineering at $1,779 per month; MBA-technical candidates at $1,748; and electrical engineers, $1,731. Graduates in the social sciences and humanities again trailed the other disciplines in dollar offers of $1,254 and $1,132 respectively (Table 6).

At the doctoral level, civil engineering candidates were the dollar leaders at $2,260 per month, followed by chemical engineers at $2,231. However, volume was very limited in most disciplines (Table 7).

- The *ENDICOTT REPORT 1979* is the 33rd annual survey of employment trends of college and university graduates in business and industry. Statistics from 156 well-known companies in 20 states and Washington, D. C., representing all major regions of the nation, indicate that these companies planned to hire 18% more college graduates at the bachelor's level in 1979 than were employed from 1978 classes. At the master's level, the increase is 11%, with the greatest demand for graduates in engineering, accounting, business administration, computer science, liberal arts and sales.

These companies expected to raise starting salaries from 4% to 8%. Predicted averages for 1979 for bachelor's degree graduates in engineering are about $1,524 per month, accountants about $1,229, graduates in business administration about $1,122 and computer science about $1,286 (Table 9).

Although engineers show the highest starting salaries, an examination of the average monthly salary of college graduates employed five years ago (class of 1973) and ten years ago (class of 1968) show accounting graduates earning higher monthly salaries than those in engineering from the same classes (Table 8).

- Starting salaries for chemists were up at all degree levels according to the *American Chemical Society's 1979 SURVEY REPORT OF STARTING SALARIES AND EMPLOYMENT STATUS OF CHEMISTRY AND CHEMICAL ENGINEERING GRADUATES*. Industry paid inexperienced chemists the highest starting salaries at all degree levels, while academic institutions paid the least at all degree levels (Charts 1, 2, and 3; and Table 15).

Starting salaries for women chemists and chemical engineers at the bachelor's level are higher than for men. However, male chemists and chemical engineers with graduate degrees receive higher starting salaries than do their female cohorts, (Table 10). Table 11 gives salary trend data for men and women chemists at the B.S. level.

By chemical specialty, master's degree analytical and general chemists had the highest starting salaries at $18,000, while Ph.D.'s in general chemistry had the highest starting salaries at $25,800 (Table 12).

By type of employer, B.S. women chemists earned more than their male counterparts in every category except "other" (Table 13), as did women chemical engineers at the B.S. level working in private industry (Table 16).

By geographic region, both bachelor's and master's degree chemists working in the West South Central area earned the most; while Ph.D. chemists in the New England states had the highest starting salaries. B.S. chemical engineers earned the most in the West South Central and Pacific states, while M.S. chemical engineers in the West South Central and East North Central states started highest (Table 14).

Median annual starting salaries of minority chemists and chemical engineers are shown in Table 17. They are slightly above the average paid to all chemists at the bachelor's level ($14,500) and exactly the same as the average paid to all B.S. chemical engineers ($19,800).

- The *American Institute of Physics* in its *1977-78 SURVEY OF PHYSICS AND ASTRONOMY BACHELOR'S DEGREE RECIPIENTS* reports that industry not only employed over half of all new bachelor's degree recipients in physics, but also paid the highest starting salaries. Men earned higher starting salaries than women with every type of employer except civilian government (Table 18).

Government paid master's degree recipients in physics the highest starting salaries at $1,500 per month, but industry paid physics doctorates the most at $1,910 per month. Industry again employed over half of all master's degree physicists, but universities employed most of the doctorate recipients (Table 19).

- The annual starting salary survey for 1977-78 doctoral recipients by the *American Mathematical Society* found that 73% were employed in academic positions, 22% accepted positions in business or industry and 5% in government, including federal, state and provincial governments. Business and industry continued to pay the highest salaries to doctorates in mathematics in 1978 (Table 20) as they have for a number of years (Table 21).

- The eleventh annual *NATIONAL SURVEY OF COMPENSATION PAID SCIENTISTS AND ENGINEERS ENGAGED IN RESEARCH AND DEVELOPMENT ACTIVITIES*, conducted by the *Battelle Columbus Laboratories* for the U.S. Department of Energy, reports that engineers again led other disciplines in highest starting salaries for all degree levels in 1978 (Table 22). By engineering discipline, chemical engineering graduates at the bachelor's level continue to command the highest starting salaries at $1,545 followed by graduates in metallurgical engineering at $1,237 (Table 23).

- The *U.S. Department of Labor's OCCUPATIONAL OUTLOOK HANDBOOK* includes information on starting salaries as well as estimating the number of people employed in various fields. A selected list of scientific and engineering personnel data is summarized in Table 24.

- Starting salaries of bachelor's degree and associate degree technology graduates are reported by the Engineering Manpower Commission (Tables 25 and 26). Bachelor's degree technology graduates who received their degree in mechanical technology received the highest starting salary - $1,313 per month - while associate degree technology graduates in mining and petroleum technology had the highest starting salaries at $1,235 per month.

- Starting salary offers for graduates of two-year colleges are collected by the *Middle Atlantic Career Counseling Association*. In the 1978-79 academic year, graduates in mechanical and mechanical design technology led the salary list at $239 per week, followed by electrical and electronics technology graduates at $237 per week, (Table 27). At the bottom of the list were graduates in child care ($122 per week), in commercial art ($153) and in policy science at $158, which led the list in salary offers in 1977-78. Starting salary offers to two-year college graduates by type of employer are shown in Table 28.

SOURCE: The College Placement Council, A Study of 1978-79 Beginning Offers Final Report, July 1979.

TABLE 1

NUMBER AND AVERAGE STARTING MONTHLY SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES BY CURRICULUM, 1978-79 AND 1977-78

CURRICULUM	No. Offers 1978-79 Total	AVERAGE $ OFFER		1978-79 Total Change from 1977-78 Total (=100)
		1978-79 Total	1977-78 Total	
BUSINESS				
Accounting	9,208	$1,206	$1,124	107.3
Business-General (includes Management)	4,796	1,102	993	111.0
Marketing & Distribution	2,225	1,040	960	108.3
ENGINEERING				
Aeronautical	608	1,505	1,354	111.2
Chemical	6,310	1,642	1,513	108.5
Civil	4,424	1,402	1,288	108.9
Electrical (including Computer Engineering)	10,742	1,520	1,367	111.2
Industrial	1,823	1,490	1,365	109.2
Mechanical	10,030	1,536	1,404	109.4
Metallurgical (includes Metallurgy & Engineering Ceramics	814	1,570	1,418	110.7
Mining	192	1,609	1,497	107.5
Nuclear (includes Engineering Physics)	356	1,486	1,360	109.3
Petroleum	717	1,793	1,653	108.5
Technology	1,950	1,433	1,289	111.2
HUMANITIES AND SOCIAL SCIENCES				
Humanities	658	983	871	112.9
Economics*	618	1,123	1,019	110.2
Other Social Sciences	1,329	972	893	108.8
SCIENCES				
Agricultural	557	1,046	965	108.4
Biological	244	1,017	1,036	98.2
Chemistry	379	1,332	1,191	111.8
Computer	2,268	1,401	1,266	110.7
Health (Medical) Professions	470	1,155	949	121.7
Mathematics	756	1,324	1,185	111.7
Other Physical & Earth Sciences	318	1,368	1,239	110.4

* Includes economics programs with both business and social science orientation.

SOURCE: The College Placement Council, A Study of 1978-79 Beginning Offers, Final Report, July 1979.

TABLE 2

AVERAGE STARTING MONTHLY SALARY OFFERS TO BACHELOR'S DEGREE CANDIDATES BY CURRICULUM AND SEX, 1977-78 AND 1978-79

CURRICULUM	No. Offers 1978-79 Total		Average $ Offers 1978-79 Total		No. Offers 1977-78 Total		Average $ Offers 1977-78 Total	
	Men	Women	Men	Women	Men	Women	Men	Women
BUSINESS								
Accounting	6,269	2,939	$1,205	$1,207	5,781	2,415	$1,124	$1,125
Business-General (inc. Management)	3,345	1,451	1,111	1,082	3,337	1,228	1,004	962
Marketing & Distribution	1,368	857	1,061	1,006	1,288	718	977	931
ENGINEERING								
Aeronautical	564	44	1,506	1,499	509	40	1,354	1,345
Chemical	4,849	1,461	1,640	1,648	4,225	1,068	1,512	1,517
Civil	3,823	601	1,397	1,435	3,057	472	1,280	1,335
Electrical[1]	10,006	736	1,518	1,546	8,068	531	1,366	1,381
Industrial	1,404	419	1,486	1,506	1,129	262	1,361	1,383
Mechanical	9,168	862	1,535	1,550	7,355	727	1,402	1,424
Metallurgical[2]	687	127	1,565	1,598	479	133	1,418	1,421
Mining	174	18	1,603	1,661	208	7	1,500	1,419
Nuclear (inc. Engrg. Physics	322	34	1,486	1,478	265	16	1,359	1,370
Petroleum	687	30	1,794	1,777	611	52	1,652	1,662
Technology	1,872	78	1,433	1,424	1,329	52	1,288	1,301
HUMANITIES & SOCIAL SCIENCES								
Humanities	258	400	1,023	957	392	618	925	837
Economics[3]	394	224	1,136	1,100	352	233	1,031	1,002
Other Social Science	620	709	1,039	914	609	814	961	843
SCIENCES								
Agricultural	464	93	1,064	957	555	102	978	896
Biological	140	104	1,048	975	172	141	1,095	964
Chemistry	236	143	1,340	1,319	229	111	1,199	1,176
Computer	1,488	780	1,411	1,381	1,394	409	1,269	1,256
Health (medical Professsions	95	375	1,357	1,104	52	412	1,045	937
Mathematics	414	342	1,340	1,304	346	333	1,192	1,177
Other Physical & Earth Sciences	266	52	1,380	1,304	251	64	1,243	1,223

[1] Includes Computer Engineering.

[2] Includes Metallurgy & Engineering Ceramics.

[3] Includes Economics programs with both business and Social Science Orientation.

[6] SOURCE: The College Placement Council, A Study of 1978-79 Beginning Offers, Final Report, July 1979.

TABLE 3

NATIONAL AVERAGE MONTHLY SALARY OFFERS TO BACHELOR'S DEGREE CANDIDATES BY FUNCTIONAL AREA AND SEX, 1978-79 AND 1977-78

FUNCTIONAL AREA	No. Offers 1978-79 Total		Average $ Offers 1978-79 Total		No. Offers 1977-78 Total		Average $ Offers 1977-78 Total	
	Men	Women	Men	Women	Men	Women	Men	Women
Accounting/Auditing	6,245	2,953	$1,206	$1,206	5,709	2,407	$1,127	$1,123
Business Administration	1,361	777	1,123	1,039	1,389	670	1,011	935
Communications	129	116	1,112	1,042	153	174	1,001	868
Community and Service Organizations Work	104	135	945	820	106	158	843	769
EDP -Programming/Systems	1,970	1,020	1,392	1,358	1,670	637	1,248	1,208
Engineering	31,022	4,006	1,529	1,563	24,996	3,120	1,395	1,431
Farm and Natural Resources Management	130	24	1,043	908	219	36	967	853
Finance and Economics	790	352	1,122	1,136	703	311	1,015	983
Health (Medical) Services	117	416	1,257	1,070	85	449	943	929
Health Economics and Dietetics	11	41	1,018	878	7	62	1,009	833
Law Enforcement Services	64	18	1,073	950	50	23	1,007	918
Library and Related Work	5	6	789	820	12	26	829	686
Manufacturing and/or Industrial Operations	1,140	205	1,430	1,411	1,045	149	1,280	1,266
Marketing - Consumer Product/Services	1,005	473	1,101	1,058	960	445	1,010	961
Marketing - Industrial Product/Services	743	231	1,269	1,251	708	159	1,131	1,134
Mathematics/Statistics	302	166	1,291	1,244	246	165	1,145	1,145
Merchandising/Sales Promotion	1,004	740	1,008	919	1,050	881	946	860
Personnel/Employee Relations	116	104	1,177	1,070	121	108	1,012	983
Public Administration	42	37	976	964	59	40	918	770
Research - Non-Scientific	105	55	1,199	1,104	100	81	1,122	959
Research - Scientific	683	278	1,425	1,326	682	252	1,282	1,158
Rotational Training - Technical	999	194	1,475	1,473	811	131	1,343	1,323
Rotational Training - Non-Technical	826	532	1,054	1,001	847	458	956	903

SOURCE: The College Placement Council, A Study of 1978-79 Beginning Offers, Final Report, July 1979.

TABLE 4

NUMBER AND AVERAGE MONTHLY SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES IN NON-TECHNICAL CURRICULA BY TYPE OF EMPLOYER AND SEX, 1978-79

TYPE OF EMPLOYER	No. Offers 1978-79 Total			Average $ Offers		
	Total	Men	Women	Overall	Men	Women
Business	12,045	7,772	4,273	$1,111	$1,128	$1,080
Federal Government	229	143	86	1,032	1,048	1,005
State & Local Government	363	230	133	1,011	1,044	954
Manufacturing/Industrial	5,880	3,984	1,896	1,202	1,205	1,197
Non-Profit & Educational Organizations	317	125	192	878	960	824

TABLE 5

NUMBER AND AVERAGE MONTHLY SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES IN TECHNICAL CURRICULA BY TYPE OF EMPLOYER AND SEX, 1978-79

TYPE OF EMPLOYER	No. Offers 1978-79 Total			Average $ Offers		
	Total	Men	Women	Overall	Men	Women
Business	793	590	203	$1,202	$1,217	$1,158
Federal Government	1,250	1,089	161	1,292	1,304	1,211
State & Local Government	695	595	100	1,188	1,197	1,134
Manufacturing/Industrial	39,699	34,247	5,452	1,528	1,528	1,527
Non-Profit & Educational Organizations	521	138	383	1,089	1,197	1,049

SOURCE: The College Placement Council, A Study of 1978-79 Beginning Offers, Final Report, July 1979.

TABLE 6

NUMBER AND AVERAGE MONTHLY STARTING SALARY OFFERS TO INEXPERIENCED MASTER'S DEGREE CANDIDATES BY CURRICULUM, 1978-79 AND 1977-78

CURRICULUM	No. Offers 1978-79 Total	AVERAGE $ OFFERS		1978-79 Total Change from 1977-78 Total (=100)
		1978-79 Total	1977-78 Total	
ENGINEERING				
Chemical	579	$1,779	$1,629	109.2
Civil	415	1,595	1,463	109.0
Electrical (including Computer Engineering)	1,146	1,731	1,557	111.2
Industrial	214	1,678	1,520	110.4
Mechanical	839	1,716	1,571	109.2
Nuclear (including Engineering Physics)	103	1,648	1,480	111.4
SCIENCES				
Geology & related Geological Sciences	263	1,684	1,517	111.0
Chemistry	102	1,552	1,426	108.8
Computer Science	524	1,689	1,541	109.6
Mathematics	146	1,502	1,417	106.0
Metallurgy (including Metallurgical Engineering, Materials Engineering & Science, and Ceramics)	119	1,708	1,563	109.3
BUSINESS				
Accounting	608	1,416	1,332	106.3
Business, Administration, Industrial Management (MBA)				
After Non-Technical Undergraduate Degree	4,309	1,611	1,498	107.5
After Technical Undergraduate Degree	1,001	1,748	1,619	108.0
HUMANITIES AND SOCIAL SCIENCES				
Humanities	43	1,132	1,008	112.3
Social Sciences	210	1,254	1,102	113.8

SOURCE: The College Placement Council, A Study of 1978-79 Beginning Offers, Final Report, July 1979.

TABLE 7

NUMBER AND AVERAGE MONTHLY STARTING SALARY OFFERS TO DOCTORAL DEGREE CANDIDATES BY CURRICULUM, 1978-79 AND 1977-78

CURRICULUM	No. Offers 1978-79 Total	AVERAGE $ OFFERS		Total Change from 1977-78 Total (=100)
		1978-79 Total	1977-78 Total	
ENGINEERING				
Chemical	134	$2,231	$2,074	107.6
Civil	11	2,260	1,830	123.5
Electrical (including Computer Engineering)	175	2,221	1,974	112.5
Mechanical	58	2,160	2,030	106.4
SCIENCES				
Chemistry	329	2,017	1,859	108.5
Mathematics (including Operations, Research, Statistics & Actuarial Science)	85	2,070	1,880	110.1
Metallurgy (including Metallurgical Engineering, Materials Engineering & Science & Ceramics)	44	2,041	2,008	101.6
Physics	98	2,093	1,904	109.9

SOURCE: The Endicott Report 1979, Thirty-Third Annual Report, By Frank S. Endicott.

TABLE 8

NUMBER AND 1978 MEDIAN MONTHLY SALARY OF GRADUATES EMPLOYED FIVE YEARS AGO (CLASS OF 1973) AND EMPLOYED TEN YEARS AGO (CLASS OF 1968)

FIELD	Employed 5 Years Ago		Employed 10 Years Ago	
	Number	Salary	Number	Salary
Engineering	811	$1,748	517	$2,122
Accounting	1,219	1,708	549	2,424
Sales	205	1,673	130	2,240
Business Administration	407	1,660	285	2,207
Liberal Arts	468	1,625	345	2,102

10 SOURCE: The Endicott Report, 1979, Thirty-Third Annual Report, by Frank S. Endicott.

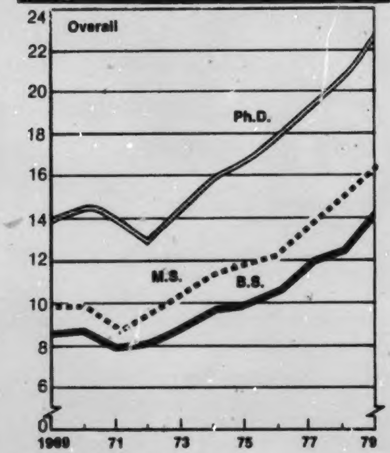
TABLE 9

NUMBER AND AVERAGE STARTING SALARY FOR NEW GRADUATES BY FIELD AND DEGREE, 1978 AND 1979

FIELD	BACHELOR'S DEGREE				MASTER'S DEGREE			
	# to be hired in 1979	1979	1978	Percent Increase	# to be hired in 1979	1979	1978	Percent Increase
Engineering (82)	7,445	$1,524	$1,431	6.5	872	$1,657	$1,537	7.8
Accounting (72)	4,917	1,229	1,166	5.4	1,100	1,430	1,363	4.9
Sales-Marketing (56)	1,543	1,091	1,035	5.4				
Business Admin. (65)	2,233	1,122	1,043	7.6				
Liberal Arts (40)	1,964	1,062	996	6.6				
Chemistry (26)	240	1,318	1,253	5.2				
Math-Statistics (33)	582	1,250	1,156	8.1				
Economics-Finance (34)	657	1,089	1,034	5.3				
Computer Science (51)	1,244	1,286	1,200	7.2				
Other Fields (34)	1,016	1,213	1,130	7.4				
MBA with Technical BS					473	1,651	1,534	7.6
MBA with Non-Technical BA					1,275	1,539	1,435	7.3
Other Technical Fields					413	1,536	1,439	6.7
Other Non-Technical Fields					337	1,398	1,341	4.3

SOURCE: Chemical and Engineering News, October 22, 1979

CHART 1 - OVERALL MEDIAN ANNUAL STARTING SALARIES FOR CHEMISTS BY DEGREE LEVEL, 1969-79



Source: ACS starting salary surveys

CHART 2 - MEDIAN ANNUAL STARTING SALARIES FOR CHEMISTS IN INDUSTRY BY DEGREE LEVEL, 1969-79

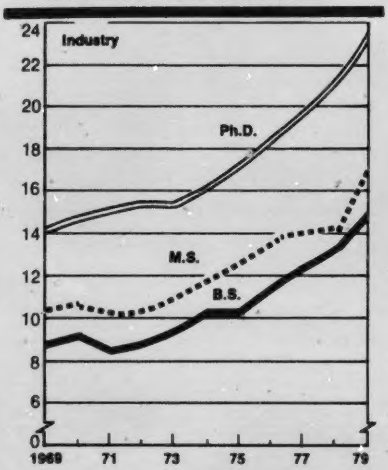
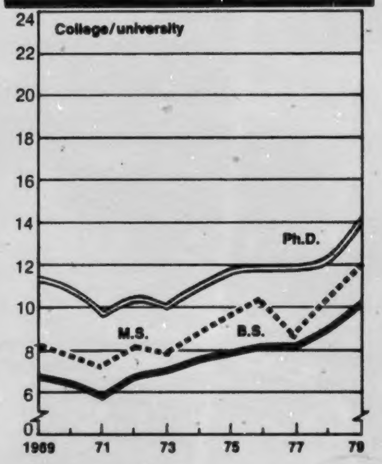


CHART 3 - MEDIAN ANNUAL STARTING SALARIES FOR CHEMISTS IN COLLEGES & UNIVERSITIES BY DEGREE LEVEL, 1969-79



SOURCE: American Chemical Society, 1979 Survey Report - Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates, November 1979

TABLE 10

NUMBER AND MEDIAN ANNUAL STARTING SALARIES OF INEXPERIENCED CHEMISTS* AND CHEMICAL ENGINEERS* BY HIGHEST DEGREE EARNED AND SEX, 1979

HIGHEST DEGREE EARNED	CHEMISTS				CHEMICAL ENGINEERS			
	Men		Women		Men		Women	
	Number	Salary	Number	Salary	Number	Salary	Number	Salary
Bachelor's	268	$14,400	173	$14,800	577	$19,800	148	$20,000
Master's	61	17,300	24	16,000	60	21,000	7	20,600
Doctorate	136	23,000	14	21,600	33	25,400	0	-

SOURCE: CHEMICAL AND ENGINEERING NEWS, American Chemical Society, November 5, 1962; October 28, 1963; November 9, 1964; October 18, 1965; October 23, 1967; and 1979 Survey Report, Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates.

TABLE 11

MEDIAN MONTHLY STARTING SALARIES FOR MEN AND WOMEN CHEMISTS,* BACHELOR'S LEVEL, 1961-1979

YEAR	MEN	WOMEN	% BELOW MEN
1961	$500	$433	13.4
1962	525	450	14.3
1963	550	473	14.0
1964	560	480	14.2
1965	590	499	15.4
1966	625	550	12.0
1967	660	600	10.0
1968	712	625	12.8
1969	750	702	6.9
1970	758	644	17.7
1971	691	650	5.9
1972	708	650	8.2
1973	750	708	5.9
1974	816	833	+2.1
1975	833	801	3.8
1976	900	908	+1.0
1977	1,000	1,000	0
1978	1,042	1,083	+3.8
1979	1,200	1,233	+2.8

*Includes only members of the American Chemical Society

[12] SOURCE: American Chemical Society, 1979 Survey Report - Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates, November 1979.

TABLE 12

NUMBER, MEDIAN, AND MEAN ANNUAL STARTING SALARIES OF GRADUATE CHEMISTS[1] BY FIELD OF HIGHEST DEGREE, 1979

FIELD OF HIGHEST DEGREE	M.S.			PH.D.		
	No.	Median	Mean	No.	Median	Mean
Analytical	12	$18,000	$17,625	33	$22,800	$21,258
Inorganic	7	15,000	13,929	28	23,000	21,768
Organic	26	16,000	16,019	47	22,500	21,394
Physical, Theoret.	14	16,100	15,829	30	23,500	21,843
Polymer, Macromol.	4	17,500	18,075	3	25,600	26,467
Chemistry, General	11	18,000	17,345	3	25,800	21,500
Pharma., Med., Cln.	3	13,000	12,867	0	-	-
Chemistry, Other	8	17,000	18,113	6	20,000	19,783
All Fields	85	17,000	16,396	150	23,000	21,563

TABLE 13

NUMBER AND MEDIAN STARTING SALARIES OF CHEMISTS[1] BY HIGHEST DEGREE EARNED, TYPE OF EMPLOYER AND SEX, 1979

TYPE OF EMPLOYER	MEN			WOMEN		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
All Industry	(195) $15,000	(44) $17,700	(92) $23,700	(104) $15,600	(11) $17,500	(8) $23,700
Mfg. Industry	(181) 15,000	(42) 17,700	(85) 23,800	(98) 15,600	(11) 17,500	(8) 23,700
Non-Mfg. Industry	(14) 16,200	(2) 14,000	(7) 23,400	(6) 16,200	*	*
Academic Institutions	(19) 10,000	(7) 13,200	(25) 15,000	(10) 10,300	(6) 10,000	(5) 13,600
Government	(12) 11,700	(2) 14,000	(9) 20,100	(10) 11,800	(2) 16,000	*
Hospital/Lab, Non-Profit	(21) 11,500	(3) 17,500	(3) 17,100	(30) 11,700	(3) 16,000	*
Other	(20) 15,800	(3) 17,500	(6) 24,000	(18) 14,800	(2) 16,600	(1) 21,600

[1] Includes only members of the American Chemical Society.

*No Data Reported .

SOURCE: American Chemical Society, 1979 Survey Report - Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates, November 1979.

TABLE 14

NUMBER AND MEDIAN STARTING SALARIES OF CHEMISTS* AND CHEMICAL ENGINEERS* BY HIGHEST DEGREE EARNED AND GEOGRAPHIC REGION, 1979

GEOGRAPHIC REGION	CHEMISTS			CHEMICAL ENGINEERS		
	B. S.	M. S.	PH.D.	B. S.	M. S.	PH.D.
Pacific	(32) $15,000	(8) $16,000	(7) $16,000	(59) $20,000	(7) $20,400	(5) $25,200
Mountain	(10) 13,000	(3) 18,000	(5) 15,000	(22) 19,700	(4) 20,000	(1) 25,700
West North Central	(27) 13,000	(5) 16,000	(14) 22,500	(59) 19,600	(3) 20,300	(1) 22,000
West South Central	(29) 16,500	(3) 19,600	(16) 22,200	(126) 20,000	(10) 21,600	(7) 25,200
East North Central	(117) 15,000	(20) 16,100	(34) 23,500	(153) 19,900	(13) 21,600	(5) 25,000
East South Central	(26) 13,000	(5) 15,000	(5) 22,600	(26) 19,800	(1) 20,500	(1) 23,500
Middle Atlantic	(122) 15,000	(24) 17,000	(33) 23,400	(160) 19,700	(19) 21,000	(10) 26,000
South Atlantic	(49) 12,500	(12) 15,500	(29) 23,500	(92) 19,800	(8) 21,300	(2) 22,000
New England	(27) 12,000	(3) 17,000	(7) 24,000	(25) 19,000	(2) 21,500	(1) 25,200

TABLE 15

NUMBER AND MEDIAN STARTING SALARIES OF CHEMISTS* AND CHEMICAL ENGINEERS* BY DEGREE LEVEL AND TYPE OF EMPLOYER, 1979

TYPE OF EMPLOYER	CHEMISTS			CHEMICAL ENGINEERS		
	B. S.	M. S.	PH.D.	B. S.	M. S.	PH.D.
All Industry	(300) $15,000	(55) $17,700	(100) $23,700	(662) $19,800	(50) $21,000	(19) $25,800
Manufacturing Industry	(280) 15,000	(53) 17,700	(93) 23,800	(607) 19,800	(41) 21,300	(16) 25,800
Non-Mfg. Industry	(20) 16,200	(2) 14,000	(7) 23,400	(55) 19,800	(9) 21,000	(3) 25,200
Academic Institutions	(29) 10,300	(13) 12,000	(30) 14,500	**	(2) 17,500	(6) 22,000
Government	(22) 11,800	(4) 16,000	(9) 20,100	(15) 18,000	(2) 23,100	(1) 25,700
Hospital/Independent Lab./Non-Profit	(51) 11,700	(6) 16,000	(3) 17,100	(11) 19,500	(4) 19,200	(3) 25,400
Other	(38) 14,900	(5) 17,500	(7) 24,000	(38) 19,800	(9) 20,800	(4) 26,000

**No data reported.

* Includes only members of the American Chemical Society.

14 SOURCE: American Chemical Society, 1979 Survey Report - Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates, November 1979.

TABLE 16

NUMBER AND MEDIAN STARTING SALARIES OF CHEMICAL ENGINEERS[1] BY DEGREE, TYPE OF EMPLOYER AND SEX, 1979

TYPE OF EMPLOYER	MEN			WOMEN		
	B. S.	M. S.	PH.D.	B. S.	M. S.	PH.D.
All Industry	(530) $19,800	(45) $21,000	(19) $25,800	(130) $20,000	(5) $20,800	*
Manufacturing Industry	(488) 19,800	(38) 21,300	(16) 25,800	(118) 20,000	(3) 20,800	*
Non-manufacturing Industry	(42) 19,800	(7) 21,000	(3) 25,200	(12) 19,500	(2) 20,000	*
Academic Institutions	*	(2) 17,500	(6) 22,000	*	*	*
Government	(13) 18,000	(2) 23,100	(1) 25,700	(2) 16,900	(2) 19,200	*
Hospital/Lab./ Nonprofit Research Inst.	(8) 19,500	(2) 9,600	(3) 25,400	(3) 19,300	(2) 19,200	*
Other	(26) 19,800	(9) 20,800	(4) 26,000	(12) 19,800	*	*

*No data reported.

TABLE 17

NUMBER AND MEDIAN ANNUAL STARTING SALARIES OF MINORITY CHEMISTS[1] AND CHEMICAL ENGINEERS BY HIGHEST DEGREE EARNED, 1979

HIGHEST DEGREE EARNED	CHEMISTS	CHEMICAL ENGINEERS
Bachelor's	(442) $14,500	(727) $19,800
Master's	(85) 17,000	(67) 21,000
Doctorate	(150) 23,000	(33) 25,400

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[1] Includes only members of the American Chemical Society.

SOURCE: American Institute of Physics, 1977-78 Survey of Physics and Astronomy Bachelor's Degree Recipients, AIP Pub. R-211.10, May 1979

TABLE 18

DISTRIBUTION AND MEDIAN MONTHLY STARTING SALARIES OF PHYSICS BACHELOR'S DEGREE RECIPIENTS BY TYPE OF EMPLOYER AND SEX, 1977-78

TYPE OF EMPLOYER	MEN (561 Reported Salaries)		WOMEN (86 Reported Salaries)		TOTAL (647 Reported Salaries)	
	Distribution by Employer	Median	Distribution by Employer	Median	Distribution by Employer	Median
Industry - Mfg.	38%	$1,290	35%	$1,280	38%	$1,290
Industry - Service	20	1,240	22	1,200	20	1,230
High School	6	870	17	750	7	830
College or University	4	940	4	*	4	900
Government, Civilian	5	1,025	5	1,080	5	1,030
Government, Military	19	970	*	*	16	970
Research Institute	6	1,210	11	1,100	6	1,180
Other	2	950	6	*	4	1,130

*Insufficient data

TABLE 19

MEDIAN MONTHLY STARTING SALARIES OF GRADUATE PHYSICISTS, 1977-1978

TYPE OF EMPLOYER	TERMINAL MASTER'S RECIPIENTS		DOCTORATE RECIPIENTS			
					MONTHLY SALARIES FOR	
	% Accepting Positions	Salary	% Accepting Postdocs'	Potentially Permanent Positions	Postdocs'	Potentially Permanent Positions
4-Year College	3%	*	-	3%	-	$1,250
University	11	$1,075	25%	27	$1,060	1,160
Secondary School	8	*	-	-	-	-
Industry	53	1,490	-	19	-	1,910
Government	16	1,500	3	6	1,450	1,650
FFRC**	5	*	3	8	1,270	1,725
Other	4	*	2	4	*	*
All Employers	100	1,450	100		1,130	1,620

* Fewer than 10 graduates reported salaries

** Federally-funded Research Center

Dashes indicate no salaries reported

SOURCE: American Mathematical Society, NOTICES, Vol. 23, No. 6, Issue No. 172, October 1976.

TABLE 20

MEDIAN BEGINNING SALARIES IN MATHEMATICS FOR PH.D.'S BY TYPE OF EMPLOYER AND SEX, 1977 AND 1978

TYPE OF EMPLOYER	MEN		WOMEN	
	1977	1978	1977	1978
Teaching or Teaching & Research (9 months)	$14,000	$14,500	$13,500	$14,500
Teaching or Teaching & Research (12 months)	17,000	18,000	---	19,500
Research (12 months)	13,900	18,700	22,200	18,000
Business & Industry (12 months)	21,600	24,600	19,500	21,000
Government (12 months)	19,200	22,000	18,200	20,000

TABLE 21

MEDIAN BEGINNING SALARIES IN MATHEMATICS FOR NEW PH.D.'S BY TYPE OF EMPLOYER, 1974-1978

TYPE OF EMPLOYER	1974	1975	1976	1977	1978
Teaching or Teaching & Research (9 months)	$12,100	$12,800	$13,300	$14,000	$14,500
Research (9 months)	8,000	---	8,000	8,600	---
Teaching or Teaching & Research (12 months)	13,800	14,500	15,500	17,000	18,500
Research (12 months)	9,500	11,900	13,000	15,600	18,500
Business & Industry (12 months)	19,000	18,700	20,500	21,000	24,000
Government (12 months)	19,700	18,200	19,400	18,700	22,000

NOTE: Dashes indicate that not enough returns were received to warrant including the figures.

SOURCE: Battelle, Columbus Laboratories, 1978 National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities, December 1978.

TABLE 22

NUMBER AND MEAN MONTHLY STARTING SALARIES OF NONSUPERVISORY EMPLOYEES ENGAGED IN R & D ACTIVITIES BY FIELD OF DEGREE AND DEGREE LEVEL, 1978

FIELD OF DEGREE	DEGREE LEVEL					
	Bachelor's		Master's		Doctorate	
	Number	Salary	Number	Salary	Number	Salary
Engineering	885	$1,418	98	$1,581	39	$2,023
Chemistry	104	1,134	4	1,425	32	1,659
Physics	34	1,268	7	1,529	9	1,789
Life Sciences	64	936	7	1,200	16	1,163
Math & Statistics	86	1,244	11	1,473	10	1,840
Social Sciences	11	1,136	--	--	6	1,800

TABLE 23

NUMBER AND MEAN STARTING SALARIES OF NONSUPERVISORY ENGINEERING BACHELOR'S DEGREE EMPLOYEES ENGAGED IN R & D ACTIVITIES BY WORKING-AS-OCCUPATION, 1978

Working-As-Occupation	Number	Salary
Aeronautical Engineering	36	$1,331
Chemical Engineering	85	1,545
Electrical Engineering	536	1,399
Materials Engineering	13	1,331
Mechanical Engineering	85	1,432
Metallurgical Engineering	5	1,460
Nuclear Engineering	24	1,425

SOURCE: U.S. Department of Labor, Occupational Outlook Handbook, 1978-79 Edition.

TABLE 24

STARTING SALARIES OF SCIENTISTS BY FIELD, TYPE OF EMPLOYER, AND HIGHEST DEGREE ATTAINED, 1976-1977

FIELD	Estimated Number Employed in 1976	TYPE OF EMPLOYER					
		1976 Private Industry			1977 Federal Government		
		B. S.	M. S.	PH.D.	B.S.	M.S.	PH.D.
Engineers	1,100,000	$14,800	$16,500	$21,000	$ 9,303-11,523	$11,523-14,097	$17,056-20,442
Mathematicians	38,000	11,500	14,300	20,000	9,303-11,523	14,097-17,056	17,056-20,442
Statisticians	24,000				9,303-11,523	14,097-17,056	17,056-20,442
Life Scientists	205,000				9,303-11,523	11,523-14,097	17,056-20,442
Agricultural	40,000	10,900			9,303-11,523	11,523-14,097	17,056-20,442
Biological	100,000	10,200			9,303-11,523	11,523-14,097	17,056-20,442
Biochemists	12,700	10,600	12,700		9,303-11,523	14,097	17,056-20,442
Foresters	25,000	10,300			9,303	11,523	14,097-17,056
Geologists	34,000	13,300	14,900		9,303-11,523	11,523-14,097	17,056-20,442
Geophysicists	12,000	13,300	14,900		9,303-11,523	11,523-14,097	17,056-20,442
Meteorologists	5,500				9,303-11,523	11,523-14,097	17,056-20,442
Chemists	150,000	11,500	13,600	18,700	9,303-11,523	14,097	17,056-20,442
Physicists	48,000	12,600	13,600	19,000	9,303-11,523	11,523-14,097	17,056-20,442
Astronomers	2,000				9,303-11,523	11,523-14,097	17,056-20,442
Oceanographers	2,700				9,303-11,523	11,523-14,097	17,056-20,442
Psychologists	90,000		11,000*	16,000*-17,000	9,303-11,523	14,097	17,056
Anthropologists	3,500			16,000	9,303-11,523	14,097	17,056
Economists	115,000	10,000	12,000	18,000	9,303-11,523	14,097	17,056
Political Scientists	14,000	10,000	12,000	12,300	9,303-11,523	14,097	17,056
Sociologists	19,000	10,000	12,000		9,303-11,523	14,097	17,056
Programmers	230,000	190 - 200**			$180**		
Food Scientists	7,000	11,300	13,500	17,400	9,303-11,523	11,523-14,097	17,056-20,442
Geographers	10,000	10,000	12,000	12,000-14,000	9,303-11,523	14,097	17,056

* Salary for 1975. ** Weekly Earnings.

SOURCE: Engineering Manpower Commission, *The Placement of Engineering and Technology Graduates 1978*, January 1979

TABLE 25

NUMBER AND MEAN MONTHLY STARTING SALARIES OF BACHELOR'S DEGREE TECHNOLOGY GRADUATES BY CURRICULUM, 1978

CURRICULUM	No. of Schools	No. of Salaries	Non-ECPD Schools*	Mean ECPD Schools*	OVERALL Mean
Aerospace	5	73	$1,247	$1,219	$1,221
Architectural	4	43	911	1,047	996
Civil & Related	17	113	1,213	1,154	1,170
Computer	7	38	1,096	1,272	1,239
Construction	12	124	1,166	1,223	1,207
Electrical	27	369	1,267	1,309	1,300
Electronic	15	178	1,194	1,290	1,273
Industrial	19	429	1,231	1,224	1,230
Manufacturing	4	32	1,268	1,213	1,259
Mechanical	36	375	1,287	1,319	1,313
Other	37	357	1,275	1,181	1,199
All Curricula	64	2,131	1,231	1,253	1,246

TABLE 26

NUMBER AND MEAN MONTHLY STARTING SALARIES OF ASSOCIATE DEGREE TECHNOLOGY GRADUATES BY CURRICULUM, 1978

CURRICULUM	No. of Schools	No. of Salaries	Mean Non-ECPD Schools*	Mean ECPD Schools	Overall Mean
Air Conditioning	9	136	$ 824	$ 930	$ 854
Architectural	21	174	732	909	817
Automotive	10	118	721	921	769
Biomedical	2	10	**	1,180	1,180
Chemical	6	38	**	974	974
Civil	31	228	795	835	819
Computer	19	172	849	978	946
Drafting	23	175	861	873	866
Electrical	29	421	911	1,006	983
Electronic	52	1,002	934	914	921
Environmental	3	6	755	**	755
Industrial	16	92	909	963	941
Manufacturing	5	30	800	985	923
Mechanical	49	373	907	1,029	988
Mining and Petroleum	3	41	1,334	1,045	1,235
Other	44	471	899	868	889
All Curricula	90	3,487	880	943	916

* ECPD schools are those having at least one engineering technology curriculum accredited by the Engineers Council for Professional Development (ECPD). Specific curricula for these schools may or may not be accredited.

** No data reported.

20 SOURCE: Middle Atlantic Career Counseling Association, Starting Salary Offers to Graduates of Two-Year Colleges, 1978-79.

TABLE 27

STARTING SALARY OFFERS TO GRADUATES OF TWO-YEAR COLLEGES BY CURRICULUM, 1977-78 AND 1978-79

By Curriculum for all Types of Employers	No. Offers 1978-79 Total	Average Weekly Offers		1978-79 Aver. Weekly Salary Annualized
		1978-79 Total	1977-78 Total	
BUSINESS				
Accounting	91	$185	$153	$9,620
Business, General	64	166	171	8,632
Marketing	31	167	151	8,687
Secretarial Science	181	173	150	8,993
Other	25	167	183	8,659
SOCIAL SCIENCE				
Child Care	8	122	130	6,324
Police Science	8	158	202	8,242
Social Science*			142	
Other	2	168	158	8,710
HEALTH PROFESSION				
Dental Technology	7	220	186	11,433
Inhalation Therapy*			173	
Medical Technology	37	200	161	10,400
Nursing	106	219	199	11,400
Occupational Therapy*			198	
Recreational Therapy*			155	
X-Ray Technology	7	195	192	10,118
Other	10	173	143	8,991
TECHNOLOGY				
Agricultural	67	169	155	8,783
Animal Science Technician	34	174	151	9,048
Biology	6	227	144	11,821
Chemistry	51	230	197	11,946
Civil Engineering	35	196	182	10,171
Computer Science and Data Processing	104	213	201	11,101
Drafting	19	217	180	11,287
Electrical and Electronics	153	237	201	12,305
Environmental Science	42	176	173	9,151
Foods	25	187	164	9,707
Mechanical and Mechanical Design	108	239	180	12,427
Other	101	191	179	9,921
LIBERAL ARTS				
Commercial Art	11	153	135	7,970
General Degree	7	173	156	9,018
Other	9	163	148	8,499
TOTAL	1,349			

*No offers reported in 1978-79.

SOURCE: Middle Atlantic Career Counseling Association, Starting Salary Offers to Graduates of Two-Year Colleges, 1978-79

TABLE 28

STARTING SALARY OFFERS TO GRADUATES OF TWO-YEAR COLLEGES BY TYPE OF EMPLOYER, 1977-78 AND 1978-79

TYPE OF EMPLOYER	No. Offers 1978-79 Total	Average Weekly Offers 1977-78 Total	Average Weekly Offers 1978-79 Total	1978-79 Aver. Weekly Salary Annualized
Accounting	7	$167	$174	$ 9,070
Aerospace and Components	19	196	230	11,949
Automotive & Mechanical Equipment	75	180	201	10,437
Banking, Finance, Insurance	61	163	173	8,991
Building Materials Manufacture and Construction	57	178	206	10,696
Chemicals, Drugs and Allied Products	98	194	219	11,388
Dentists	7	143	220	11,433
Electrical Machinery and Equipment	115	193	226	11,726
Electronics and Instruments	100	194	237	12,344
Food & Beverage Processing	22	207	181	9,395
Glass, Paper, Packaging and Allied Products	23	182	207	10,775
Hotel/Restaurant	29	163	191	9,932
Hospitals	163	207	205	10,657
Lawyers	35	165	156	8,112
Merchandising and Retail Services	122	151	155	8,045
Metals and Metal Products	26	196	218	11,348
Nursing Homes	6	160	180	9,377
Petroleum and Allied Products	22	222	244	12,664
Physicians	14	140	155	8,075
Research and/or Consulting Organizations	49	173	211	10,987
Textile Industry	4	161	190	9,867
Utilities - Public (including Transportation)	40	205	211	10,956
Government - Federal	9	177	218	11,336
Government - Local and State	43	196	186	9,667
Non-Profit Organizations and Educational Institutions	52	145	166	8,653
Other	151	159	178	9,233
TOTAL	1,349			

SALARIES OF EXPERIENCED SCIENTIFIC AND TECHNICAL PERSONNEL

- Three subsystems make up the *Manpower Characteristics System* (MCS) of the *National Science Foundation.* This system produces estimates for the total U.S. science and engineering population. The Experienced Sample of Scientists and Engineers consists of about 50,000 individuals (3%-5% sample) who were in the labor force by 1970; and data on this group, collected by the *Bureau of the Census* for the NSF, forms one part of the MCS. The Roster of Doctoral Scientists and Engineers, maintained by the *National Research Council* consists of all known doctoral scientists and engineers in the U.S. starting with those of 1930. The roster serves as a source for a 20% sample of about 60,000 doctoral scientists and engineers surveyed biennially to provide data on the doctoral population of the U.S. The last subsystem, the New Entrants Survey, provides information on the number and characteristics of scientific and technical personnel entering the labor force after 1970.

The 1978 median annual salary for all scientists and engineers who were in the labor force by 1970 was $27,200. Earth scientists earned the highest salary - $30,600, followed by economists at $30,500. Only women physicists/astronomers reported higher salaries in 1978 than their male counterparts (Table 29). 1978 annual salaries by field and degree level for experienced scientists and engineers are shown in Table 30.

By type of employer, those experienced scientists and engineers working for the federal government reported the highest salaries - $28,900, followed by those employed by business and industry at $27,500. Economists working in the federal government reported the highest salary of $33,800 (Table 31).

Scientists and engineers engaged in management or administration of R & D reported the highest salary of $32,900 by type of work activity (Table 32), except for economists who were engaged in consulting.

1978 median annual salaries of experienced scientists and engineers by years of professional experience and age are shown in Tables 33 and 34.

- Approximately 295,800 U.S. scientists and engineers earned doctorates between January 1936 and July 1976, of whom an estimated 280,200 were in the labor force in 1977 according to data collected by the *National Academy of Sciences/National Research Council* for the *Manpower Characteristics System* of the *National Science Foundation.* Data in *CHARACTERISTICS OF DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES, 1977* show that business and industry pay the highest salary to doctoral scientists and engineers - $29,900, followed by the federal government at $29,700 - about 17% higher than the overall median salary of $25,600. Salaries paid by two-year colleges were the lowest of all, approximately 18% below the overall median. Economists working in nonprofit organizations reported the highest median salary of $34,200 (Table 35). Detailed data on salaries paid to doctoral scientists and engineers employed in educational institutions, business and industry, and the federal government are shown in Tables 36-38.

Teaching, the most dominant work activity of doctoral scientists and engineers, continued to provide the lowest annual salaries. In 1977, the median annual salary of Ph.D.'s who reported teaching as their primary work activity was $22,600 - $10,500 below that of doctoral scientists and engineers who report the management or administration of R & D as their primary work activity. Again, economists engaged in management or administration had the highest median salary - $43,100 (Table 39).

By geographic area, doctoral scientists and engineers working in the Middle Atlantic area reported the highest median salaries with economists in the South Atlantic area reporting the highest salary (Table 40).

Median annual salaries of doctoral scientists and engineers by years of professional experience and by age are presented in Tables 41 and 42.

Only 10%, or 30,500, of the science and engineering doctoral population are women, with psychology having the largest proportion (24%) of women. Nearly 22%, or 17,300 of the humanities Ph.D.'s are women. Doctorate women continued to earn lower salaries than men in every field (Table 43).

Members of racial minority groups numbered 19,000 and accounted for 6% of the total doctoral science and engineering population in 1977, and 2,500 or 3% of the humanities doctoral population. Black engineers at $28,600 reported the highest median salary among the racial groups (Table 43).

- The *1978 NATIONAL SURVEY OF COMPENSATION PAID SCIENTISTS AND ENGINEERS ENGAGED IN RESEARCH AND DEVELOPMENT ACTIVITIES*, conducted by the *Columbus Laboratories* for the *U.S. Department of Energy* presents salary data from 2,010 establishments covering 87,799 scientists and engineers spending more than half of their time in research and development activities.

As in previous surveys, by working-as-occupation, aeronautical and astronautical engineers reported the highest mean monthly salary - $2,178 - among all bachelor's degree nonsupervisory scientists and engineers. Agricultural and biological scientists had the lowest mean monthly salary, $1,299 (Table 44). For master's degree nonsupervisory scientists and engineers, mining and petroleum engineers reported the highest mean salary, followed by aeronautical and astronautical engineers. Agricultural and biological scientists again reported the lowest mean salary at the master's level - $1,600, (Table 45). At the doctorate level, mining and petroleum engineers were well ahead of all other Ph.D. nonsupervisory scientists and engineers at $3,031 per month, followed by aeronautical and astronautical engineers and nuclear engineers at $2,550. The agricultural and biological scientists again were at the bottom at $1,927 per month (Table 46).

By type of establishment, bachelor's level nonsupervisory scientists and engineers working at federal establishments earned the most as did master's degree personnel at contract research centers and Ph.D. scientists and engineers working in industry (Table 47).

By highest degree field, physicists at the bachelor's level, engineers at the master's and doctoral level earned the most (Table 48).

Women with comparable education and work experience working as nonsupervisory scientists and engineers in R & D earn substantially lower salaries than their male cohorts in all fields reported (Table 49).

- Another survey of scientists and engineers engaged in R & D activities by *INDUSTRIAL RESEARCH* reports that median income in 1979 was close to $27,500 annually, up nearly 13% from 1978 and above the 1978 inflation rate. Chart 4 shows salary, percent raise from 1978, time with present employer, age, years of experience and highest degree held for 11 professional categories.

Women are only 5% of all scientists and engineers working in R & D, and their salaries lag well behind those for men in the industry. Fifty-four percent of all women in R & D earn less than $22,000 per year, while only 21% of the men are below that level. Similarly, 54% of the women chemists earn less than $22,000, even though chemists as a profession lag behind the R & D industry as a whole with 25% of all chemists below $22,000, compared to only 21% of all R & D personnel. Overall, the average salary for all R & D workers with less than a bachelor's degree is $22,880 - $900 per year more than the average for all women including those with master's and doctorate degrees (Chart 5).

Salaries of scientists and engineers employed in R & D by years of experience from 1977 to 1979 are shown in Chart 6.

- Average salaries for selected white-collar occupations in private industry increased 7.8% during the year ended March 1979, according to preliminary data from the annual nationwide salary survey by the *Bureau of Labor Statistics* of the *U. S. Department of Labor*. The increase is about the same as the 7.9% increase recorded in March 1978. Salaries for engineers increased 8.4%, for chemists 7.6% and for accountants 8.0%. Over the same period, the Consumer Price Index advanced 10.2% (Table 50). Table 51 presents similar data for the March 1978 period for comparison.

- The 1979 salary survey of experienced chemists and chemical engineers, conducted annually by the *American Chemical Society*, reports that overall annual median salaries for chemists increased 6% between March 1978 and March 1979. For chemical engineers, the increase was 5%. However, during that time period, the inflation rate increased more than 10%. In 1979, the median salary for B.S. chemists is $23,500, up 7%; for M.S. chemists $25,000, up 4%; and for Ph.D.'s chemists, up 6% (Table 52).

As might be expected, salaries are highest among managers and administrators. The median for Ph.D. chemists engaged in R & D management is $40,000 - more than a third higher than the median for Ph.D.'s doing research ($29,000) and nearly half again as much as for full professors ($27,000) (Table 53).

As in the past, jobs in industry or with the federal government pay the highest salaries, except for those few chemists who are self-employed. The median salary for a Ph.D. chemist working for a manufacturing firm in 1979 is $33,000, up 6% from 1978, and $1,000 more than the median for his counterpart working for the federal government. However, the median for a B.S. chemist employed by the federal government is $26,000 - $1,300 higher than that for a similar chemist in manufacturing. Salaries for chemists working in universities and colleges are markedly lower. The median salary for a Ph.D. chemist at a public university is only 74% that of a Ph.D. in manufacturing and at a private four-year college is only 55% as much (Table 54).

By chemical specialty, B.S. organic chemists earn the most ($26,300); M.S. polymer chemists ($28,000) and Ph.D. polymer chemists ($33,000) (Table 55).

By geographical region, B.S. chemists working in the West South Central region earn the most - $24,400 - as do M.S. chemists in the South Atlantic region and Ph.D. chemists in the Middle Atlantic states (Table 56).

A comparison of salaries of chemists working in industry with all chemists finds that industrial chemists earn more at all degree levels and at all years of experience (Table 57). Table 58 presents 1979 median salary and 1978 income of chemists by years of experience and degree level.

Except for entry level baccalaureate chemists, salaries of women are lower than those for men. The median for women chemists with a B.S. degree is $17,500 compared to $25,000 for men; at the master's level women earn $19,500 compared to $26,000 for men and at the doctorate level, $22,000 compared to $30,000 for men (Table 59). Table 60 presents median salaries of chemists in industry by degree level, years of experience and sex for 1979.

- A salary survey of the members of the *American Institute of Chemists* in 1978 found AIC chemists with bachelor's degrees receiving a median salary of $26,500;

master's $29,500 and Ph.D.'s $32,600. As expected, those chemists who were industrially employed reported the highest median salaries (Table 61).

- Results of *INFOSYSTEMS'* 21st annual DP salary survey show data processing jobs in 1979 having a net salary gain of 10%, up from a 6.9% increase in 1978. The 1979 survey includes 1,140 establishments covering over 18,000 DP employees nationwide. Data processing managers earned a national average weekly salary of $503, up 6.6% from 1978. Salaries by type of job are shown in Table 62.

The top ten cities in regard to weekly average salaries for DP managers were Denver, $599; Jersey City/Newark, $575; Washington, D.C., $574; Salt Lake City, $560; Charleston WV/Richmond/Roanoke, VA, $558; New York, $556; Chicago, $541; Los Angeles, $541; San Francisco, $539; and Miami, $538. The lowest was reported by Springfield, Illinois - $409. Salaries by geographic region are shown in Table 63.

- Salaries in computer and data processing services establishments varied widely among 18 metropolitan areas surveyed in March 1978 by the *Bureau of Labor Statistics* of the *U.S. Department of Labor.* Average weekly earnings of computer systems analysts, the most populous and highest paid job category studied, ranged between $350 and $425. As expected, salaries paid to women in these selected DP jobs were consistently below those paid to men (Table 64).

- Average annual salaries for selected positions in state and territorial public health laboratories are collected and published by the *U.S. Department of HEW, Public Health Service.* As in previous years, Alaska leads all states in salaries paid to all job categories studied in 1977 (Table 65).

Average salaries range from $7,549 for a lab aide I to $28,519 for a lab director. Medium level microbiologists averaged $16,805, while medium level chemists earned $16,713 (Table 66).

26 SOURCE: National Science Foundation, Experienced Sample of Scientists and Engineers, Unpublished Data, 1978

TABLE 29

1978 MEDIAN ANNUAL SALARIES OF SCIENTISTS AND ENGINEERS WHO WERE IN THE LABOR FORCE IN 1970 BY FIELD AND SEX

FIELD	TOTAL	MALE	FEMALE
PHYSICAL SCIENTISTS	$27,600	$28,000	$22,000
Chemists	26,700	27,300	21,200
Physicists/Astronomers	29,300	29,300	30,700
Other Physical Scientists	28,900	29,100	*
MATHEMATICAL SCIENTISTS	27,500	27,900	24,100
Mathematicians	27,500	28,000	22,500
Statisticians	27,500	27,600	26,700
COMPUTER SPECIALISTS	25,900	26,200	23,600
ENVIRONMENTAL SCIENTISTS	30,400	30,500	24,700
Earth Scientists	30,600	30,800	24,700
Oceanographers	26,800	26,800	*
Atmospheric Scientists	29,700	29,700	*
ENGINEERS	27,400	27,400	24,100
Aeronautical/Astronautical	28,800	28,800	*
Chemical	29,000	29,000	*
Civil	25,800	25,800	*
Electrical/Electronic	26,600	26,600	*
Mechanical	26,600	26,600	*
Other Engineers	29,000	29,000	22,300
LIFE SCIENTISTS	24,900	25,200	21,900
Biological Scientists	25,200	25,800	21,800
Agricultural Scientists	23,800	23,900	*
Medical Scientists	28,900	30,200	22,800
PSYCHOLOGISTS	26,500	27,300	23,800
SOCIAL SCIENTISTS	27,600	28,700	21,000
Economists	30,500	30,800	25,600
Sociologists/Anthropologists	25,900	26,900	21,500
Other Social Scientists	26,400	27,400	19,800
TOTAL, ALL FIELDS	27,200	27,400	22,600

* Less than 20 sample cases reported.

SOURCE: National Science Foundation, Experienced Sample of Scientists and Engineers, Unpublished Data, 1978

TABLE 30

1978 MEDIAN ANNUAL SALARIES OF SCIENTISTS AND ENGINEERS WHO WERE IN THE LABOR FORCE IN 1970 BY FIELD AND DEGREE LEVEL

FIELD	DEGREE LEVEL								
	BACHELOR'S			MASTER'S			PH.D.		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
PHYSICAL SCIENTISTS	$25,200	$25,500	$21,300	$26,200	$26,500	$22,600	$30,300	$30,400	$22,500
Chemists	24,400	24,800	20,600	25,400	25,700	20,700	30,400	30,600	21,700
Physicists/Astronomers	28,100	28,300	*	29,200	29,200	*	29,800	29,700	*
Other Physical Scientists	27,200	27,200	*	29,000	27,200	*	30,600	30,700	*
MATHEMATICAL SCIENTISTS	27,700	28,300	25,400	26,200	26,600	22,100	28,500	28,600	27,000
Mathematicians	28,500	29,100	26,000	26,300	26,800	20,800	27,800	28,000	23,600
Statisticians	24,100	24,900	*	26,000	25,700	*	30,800	30,500	*
COMPUTER SPECIALISTS	25,600	25,700	23,900	26,600	27,300	20,900	27,100	27,800	*
ENVIRONMENTAL SCIENTISTS	30,300	30,400	*	30,400	30,800	*	30,300	30,300	*
Earth Scientists	30,500	30,600	*	30,600	31,100	*	30,700	30,700	*
Oceanographers	*	*	*	*	*	*	26,200	26,200	*
Atmospheric Scientists	30,200	30,200	*	28,500	28,600	*	30,500	30,500	*
ENGINEERS	26,900	26,900	24,000	28,400	28,400	*	32,100	32,100	*
LIFE SCIENTISTS	22,200	22,400	19,100	21,700	22,000	19,400	27,300	27,600	24,900
Biological Scientists	21,900	22,400	20,400	21,200	21,800	19,500	26,700	27,000	24,400
Agricultural Scientists	22,400	22,400	*	21,800	21,900	*	27,700	27,700	*
Medical Scientists	18,100	*	*	22,500	26,800	*	30,300	30,300	30,400
PSYCHOLOGISTS	27,300	27,700	*	23,500	23,800	22,600	28,000	28,900	24,400
SOCIAL SCIENTISTS	26,900	29,300	18,300	25,800	26,600	20,700	28,900	29,600	24,800
Economists	26,800	26,900	*	30,500	31,300	*	31,200	31,300	*
Sociologists/Anthropologists	*	*	*	20,200	19,900	*	27,100	28,200	22,400
Other Social Scientists	27,300	30,800	*	25,400	26,400	18,900	27,900	28,500	25,500
TOTAL ALL FIELDS	26,500	26,600	22,100	27,500	27,800	21,500	29,800	30,100	24,300

* Less than 20 sample cases reported.

SOURCE: National Science Foundation, Experienced Sample of Scientists and Engineers, Unpublished Data, 1978

TABLE 31

1978 MEDIAN ANNUAL SALARIES OF SCIENTISTS AND ENGINEERS WHO WERE IN THE LABOR FORCE IN 1970 BY FIELD AND TYPE OF EMPLOYER

FIELD	TYPE OF EMPLOYER							
	Business & Industry	4-year College/ University	2-year College	Non-Profit Organization	Federal Government	State Government	Other Government	Other
PHYSICAL SCIENTISTS	$28,400	$26,300	$24,400	$28,600	$29,500	$18,900	$25,000	$22,600
Chemists	27,500	26,100	24,700	25,300	27,600	18,700	22,100	22,100
Physicists/Astronomers	31,000	26,500	24,700	30,300	31,100	*	29,700	*
Other Physical Scientists	30,300	27,100	*	*	29,900	*	*	*
MATHEMATICAL SCIENTISTS	29,300	26,700	22,500	28,200	29,500	18,800	27,300	*
Mathematicians	30,000	26,300	22,700	28,400	30,200	*	27,500	*
Statisticians	26,800	28,700	*	*	28,700	*	*	*
COMPUTER SPECIALISTS	26,000	23,400	*	24,400	28,000	20,100	26,100	25,300
ENVIRONMENTAL SCIENTISTS	33,400	27,500	26,400	*	29,500	20,700	29,300	*
Earth Scientists	33,600	27,100	26,400	*	28,400	20,700	29,300	*
Oceanographers	*	*	*	*	30,100	*	*	*
Atmospheric Scientists	28,600	28,400	*	*	30,500	*	*	*
ENGINEERS	27,400	27,600	21,500	29,700	29,700	23,300	25,900	25,600
LIFE SCIENTISTS	26,300	26,000	22,400	23,200	24,200	18,300	23,000	20,300
Biological Scientists	25,900	25,700	22,200	22,900	26,500	19,400	22,800	24,400
Agricultural Scientists	25,800	25,000	*	*	23,200	17,100	23,200	*
Medical Scientists	30,700	30,200	*	*	30,500	*	*	19,600
PSYCHOLOGISTS	30,600	26,700	26,300	23,300	32,800	24,300	24,100	25,400
SOCIAL SCIENTISTS	30,600	26,800	22,100	22,200	32,900	22,900	26,600	25,900
Economists	32,200	28,200	*	*	33,800	25,200	38,000	*
Sociologists/Anthropologists	25,800	26,600	22,700	*	27,900	*	*	*
Other Social Scientists	28,600	26,500	*	22,800	32,000	23,000	21,400	25,300
TOTAL, ALL FIELDS	27,500	26,600	22,700	27,700	28,900	22,300	25,800	25,200

* Less than 20 sample cases reported.

SOURCE: National Science Foundation, Experienced Sample of Scientists and Engineers, Unpublished Data, 1978.

TABLE 32

1978 MEDIAN ANNUAL SALARIES OF SCIENTISTS AND ENGINEERS WHO WERE IN THE LABOR FORCE IN 1970 BY FIELD AND PRIMARY WORK ACTIVITY

FIELD	PRIMARY WORK ACTIVITY										
		RESEARCH & DEVELOPMENT			MANAGEMENT OR ADMINISTRATION						
	Total	Basic Research	Applied Research	Development Design	Total	Of R & D	Other Than R & D	TEACHING	PRODUCTION/ INSPECTION	CONSULTING	OTHER ACTIVITIES
PHYSICAL SCIENTISTS	$26,700	$26,300	$28,100	$25,900	$33,100	$35,300	$30,300	$26,100	$22,100	$30,500	$25,200
Chemists	26,000	25,700	27,800	25,100	32,700	34,400	30,300	25,900	21,000	30,500	24,300
Physicists/Astronomers	28,400	26,800	29,200	28,100	34,800	36,700	30,600	26,400	28,800	*	26,700
Other Physical Scientists	27,800	29,800	26,800	27,800	32,100	32,700	29,800	*	*	*	*
MATHEMATICAL SCIENTISTS	30,200	33,200	29,500	27,600	31,400	33,300	30,500	25,100	26,400	*	25,800
Mathematicians	30,300	32,200	30,500	27,600	31,400	33,500	30,300	24,800	26,200	*	26,100
Statisticians	29,800	*	*	*	31,100	30,600	31,900	27,400	*	*	25,500
COMPUTER SPECIALISTS	27,500	*	28,600	27,100	29,000	30,500	28,000	25,900	25,700	28,600	24,600
ENVIRONMENTAL SCIENTISTS	30,100	28,300	30,200	30,500	36,000	35,400	36,600	26,600	28,900	35,200	27,000
Earth Scientists	30,400	30,300	30,200	30,700	36,100	35,700	36,500	26,600	28,300	36,700	26,800
Oceanographers	25,700	25,300	*	*	*	*	*	*	*	*	*
Atmospheric Scientists	30,000	*	25,700	*	37,400	*	*	*	*	*	28,500
ENGINEERS	26,100	25,800	28,100	25,900	30,800	32,800	30,300	27,700	25,200	28,000	25,200
LIFE SCIENTISTS	25,100	26,000	24,300	23,700	26,500	30,200	25,200	25,200	22,000	20,400	22,500
Biological Scientists	24,900	25,500	23,700	25,100	29,700	30,200	29,200	24,900	20,900	17,500	22,200
Agricultural Scientists	24,500	24,600	25,000	23,100	24,400	27,900	23,800	24,200	22,000	21,200	22,700
Medical Scientists	26,600	31,000	22,800	*	34,700	33,300	36,200	27,100	*	*	*
PSYCHOLOGISTS	30,200	27,700	30,600	30,500	28,000	32,100	26,300	26,200	26,800	24,600	25,900
SOCIAL SCIENTISTS	28,900	29,100	29,400	24,000	30,800	34,300	28,100	26,100	24,800	28,400	25,700
Economists	30,100	*	30,300	*	32,900	35,400	29,600	26,600	*	48,500	30,600
Sociologists/Anthropologists	26,900	28,000	*	*	27,700	32,700	27,200	25,800	*	*	20,600
Other Social Scientists	31,400	41,400	*	*	31,100	33,600	29,300	26,200	*	*	20,400
TOTAL, ALL FIELDS	26,300	26,900	27,800	25,900	30,800	32,900	30,100	26,100	25,100	27,500	25,000

* Less than 20 sample cases reported.

SOURCE: National Science Foundation, Experienced Sample of Scientists and Engineers, Unpublished Data, 1978.

TABLE 33

1978 MEDIAN ANNUAL SALARIES OF SCIENTISTS AND ENGINEERS WHO WERE IN THE LABOR FORCE IN 1970 BY FIELD AND YEARS OF PROFESSIONAL EXPERIENCE

FIELD	TOTAL	YEARS OF PROFESSIONAL EXPERIENCE									
		5 or less	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41+	Not Reported
PHYSICAL SCIENTISTS	$27,600	$21,400	$23,900	$26,300	$28,000	$30,400	$30,600	$31,900	$34,100	$35,400	$30,100
Chemists	26,700	21,400	22,500	25,600	26,800	29,400	29,800	31,000	32,900	35,500	*
Physicists/Astronomers	29,300	21,400	24,500	27,600	30,700	33,000	33,800	35,700	39,300	*	*
Other Physical Scientists	28,900	*	26,500	27,000	29,200	32,300	32,700	*	*	*	*
MATHEMATICAL SCIENTISTS	27,500	18,300	23,400	26,300	28,700	32,400	33,000	33,300	33,300	*	*
Mathematicians	27,500	*	22,800	26,300	28,400	32,700	31,900	33,400	31,100	*	*
Statisticians	27,500	*	24,200	26,400	30,700	29,000	35,600	33,000	*	*	*
COMPUTER SCIENTISTS	25,900	20,300	23,600	25,800	28,300	30,000	29,500	*	*	*	*
ENVIRONMENTAL SCIENTISTS	30,400	23,200	24,000	27,100	29,000	34,400	34,800	33,700	33,700	*	*
Earth Scientists	30,600	*	24,200	26,200	29,700	35,100	35,300	33,400	33,100	*	*
Oceanographers	26,800	*	*	29,000	*	*	*	*	*	*	*
Atmospheric Scientists	29,700	*	*	28,700	28,700	31,500	29,900	*	*	*	*
ENGINEERS	27,400	22,200	23,800	26,000	28,000	28,700	30,100	30,500	30,300	27,200	24,300
LIFE SCIENTISTS	24,900	19,500	21,900	24,200	25,700	26,300	28,100	30,500	28,900	33,700	*
Biological Scientists	25,200	20,100	21,800	24,300	27,400	27,400	28,900	30,600	29,800	*	*
Agricultural Scientists	23,800	*	20,300	22,000	24,200	24,900	27,000	25,000	25,400	*	*
Medical Scientists	28,900	*	24,100	30,000	29,300	29,700	34,100	40,900	*	*	*
PSYCHOLOGISTS	26,500	21,300	24,100	25,000	28,300	30,200	33,500	33,600	31,600	32,200	*
SOCIAL SCIENTISTS	27,600	20,400	22,800	26,800	29,600	30,900	33,700	31,100	42,000	*	*
Economists	30,500	*	25,100	29,500	32,300	34,100	36,600	30,800	41,900	*	*
Sociologists/Anthropologists	25,900	*	22,200	24,800	28,400	28,100	32,200	*	*	*	*
Other Social Scientists	26,400	*	22,200	26,000	28,300	27,000	31,800	*	*	*	*
TOTAL ALL FIELDS	27,200	21,000	23,500	25,900	28,000	29,200	30,300	30,700	30,700	28,800	25,300

SOURCE: National Science Foundation, Experienced Sample of Scientists and Engineers, Unpublished Data, 1978.

TABLE 34

1978 MEDIAN ANNUAL SALARIES OF SCIENTISTS AND ENGINEERS WHO WERE IN THE LABOR FORCE IN 1970 BY FIELD AND AGE

FIELD	TOTAL	AGE									
		Under 30	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 and Over
PHYSICAL SCIENTISTS	$27,600	*	$22,600	$25,700	$27,600	$30,600	$30,100	$32,300	$32,600	$30,900	*
Chemists	26,700	*	21,700	25,100	26,900	29,500	28,600	31,900	31,000	30,000	*
Physicists/Astronomers	29,300	*	24,700	26,400	29,200	32,500	33,700	32,600	37,800	*	*
Other Physical Scientists	28,900	*	*	26,800	26,800	35,400	30,800	34,300	*	*	*
MATHEMATICAL SCIENTISTS	27,500	*	22,700	25,900	28,800	30,100	32,800	31,600	31,800	*	*
Mathematicians	27,500	*	22,600	25,800	29,000	29,500	33,000	30,400	31,600	*	*
Statisticians	27,500	*	23,000	26,200	28,400	30,600	31,200	35,200	*	*	*
COMPUTER SCIENTISTS	25,900	*	24,400	26,200	28,000	27,300	27,600	24,100	*	*	*
ENVIRONMENTAL SCIENTISTS	30,400	*	21,900	26,500	28,600	32,700	34,500	33,000	33,200	32,100	*
EARTH SCIENTISTS	30,600	*	21,300	26,100	29,400	32,700	35,000	33,400	33,100	32,300	*
Oceanographers	26,800	*	*	26,200	*	*	*	*	*	*	*
Atmospheric Scientists	29,700	*	*	28,800	28,100	31,500	*	30,900	*	*	*
ENGINEERS	27,400	22,300	24,100	26,500	27,900	28,600	29,300	28,900	27,600	28,000	$24,300
LIFE SCIENTISTS	24,900	*	20,400	22,500	24,500	27,200	28,100	28,000	29,500	31,000	*
Biological Scientists	25,200	*	21,300	22,500	24,600	27,400	28,800	28,500	33,100	*	*
Agricultural Scientists	23,800	*	19,400	21,600	24,100	26,400	25,200	24,600	25,700	*	*
Medical Scientists	28,900	*	19,000	25,900	26,900	32,400	32,600	34,700	*	*	*
PSYCHOLOGISTS	26,500	*	22,800	24,500	26,200	29,900	30,400	30,400	30,400	*	*
SOCIAL SCIENTISTS	27,600	*	22,900	25,200	28,700	29,700	32,400	32,200	30,500	33,700	*
Economists	30,500	*	24,100	29,600	30,400	31,800	36,100	33,200	33,200	*	*
Sociologists/Anthropologists	25,900	*	21,900	22,400	25,200	28,200	30,900	30,100	*	*	*
Other Social Scientists	26,400	*	21,500	24,000	28,400	28,200	27,200	31,900	30,300	*	*
TOTAL ALL FIELDS	27,200	21,800	23,600	26,000	27,600	28,900	29,700	29,900	28,800	29,000	25,400

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306.

TABLE 35

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND TYPE OF EMPLOYER, 1977

FIELD	TOTAL	TYPE OF EMPLOYER								
		Business & Industry	EDUCATIONAL INSTITUTIONS				Hospital/ Clinic	Non-Profit Organization	Federal Government	State Government
			Total	4-Year Colleges	2-Year Colleges	Elem./ Sec. School				
ALL FIELDS	$25,600	$29,900	$23,700	$23,800	$20,900	$22,400	$23,600	$26,800	$29,700	$21,600
PHYSICAL SCIENTISTS	26,600	29,900	23,600	23,900	20,800	18,100	26,500	25,900	29,700	20,200
Chemists	26,600	30,000	22,800	23,000	21,400	15,800	26,500	25,500	29,100	19,900
Physicists/Astronomers	26,500	29,700	24,400	24,600	20,100	*	*	26,800	30,100	*
MATHEMATICAL SCIENTISTS	23,300	27,400	22,700	22,800	17,800	*	*	28,600	29,300	*
Mathematicians	23,100	27,300	22,600	22,700	17,800	*	*	30,300	29,400	*
Statisticians	25,100	27,600	23,200	23,200	*	*	*	*	*	*
COMPUTER SPECIALISTS	25,800	26,700	24,400	24,400	*	*	*	*	30,500	*
ENVIRONMENTAL SCIENTISTS	25,800	28,600	23,600	23,700	*	*	*	27,600	30,700	21,000
Earth Scientists	25,900	28,600	23,400	23,600	*	*	*	28,600	30,600	22,200
Oceanographers	24,100	*	23,600	23,600	*	*	*	*	28,300	*
Atmospheric Scientists	28,300	29,200	25,200	25,200	*	*	*	*	31,400	*
ENGINEERS	28,600	30,000	26,500	26,500	23,800	*	*	30,100	30,000	21,700
LIFE SCIENTISTS	24,700	28,700	23,500	23,600	20,600	19,300	25,300	24,500	28,400	21,100
Biological Scientists	23,800	27,400	22,800	22,900	20,500	19,300	23,700	23,200	27,900	20,100
Agricultural Scientists	24,800	26,800	23,700	23,800	*	*	*	*	27,700	20,600
Medical Scientists	28,000	33,200	25,800	25,800	*	*	26,300	26,100	32,400	23,300
PSYCHOLOGISTS	24,100	33,300	22,700	22,700	20,300	23,900	23,200	24,400	30,600	22,900
SOCIAL SCIENTISTS	24,100	30,200	23,100	23,200	22,400	20,700	*	26,800	31,400	22,100
Economists	27,000	34,100	25,100	25,100	*	*	*	34,200	32,900	*
Sociologists/Anthropologists	22,200	*	22,100	22,100	21,600	*	*	22,400	*	*
Other Social Scientists	23,200	26,800	22,700	22,700	23,100	20,600	*	25,300	31,300	21,800

NOTE: Median salaries computed only for full-time employed civilians.

* No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306

TABLE 36

NUMBER AND MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED IN EDUCATIONAL INSTITUTIONS BY FIELD, 1973-1977

Field	1973				1975				1977			
	Number	Percent	Percent of total employed	Median annual salary	Number	Percent	Percent of total employed	Median annual salary	Number	Percent	Percent of total employed	Median annual salary
Total	129,406	100.0	58.7	$19,100	149,184	100.0	58.3	$21,400	163,101	100.0	57.4	$23,700
Physical scientists	21,984	17.0	45.3	18,300	25,681	17.2	47.0	21,100	27,081	16.6	47.1	23,600
Chemists	11,877	9.2	38.7	17,900	14,229	9.5	39.7	20,600	14,792	9.1	39.6	22,800
Physicists/astronomers	10,087	7.8	56.8	18,900	11,452	7.7	60.8	22,000	12,289	7.5	61.0	24,400
Mathematical scientists	10,461	8.1	86.1	18,600	11,733	7.9	86.0	20,500	12,228	7.5	83.9	22,700
Mathematicians	9,399	7.3	88.0	18,500	10,423	7.0	87.6	20,400	11,018	6.8	85.7	22,600
Statisticians	1,062	.8	72.8	19,800	1,310	.9	75.2	22,200	1,210	.7	70.6	23,200
Computer specialists	1,374	1.1	51.0	21,200	1,700	1.1	46.6	22,700	2,128	1.3	36.9	24,400
Environmental scientists	5,198	4.0	50.3	18,800	5,976	4.0	49.3	21,000	6,312	3.9	48.5	23,600
Earth scientists	4,181	3.2	49.0	18,600	4,619	3.1	48.5	20,900	4,641	2.8	47.5	23,400
Oceanographer	711	.5	61.5	19,200	800	.5	62.6	19,700	971	.6	62.1	23,600
Atmospheric scientists	306	.2	48.0	21,600	557	.4	42.3	23,200	700	.4	41.2	25,200
Engineers	13,018	10.1	36.4	20,600	14,903	10.0	35.1	23,600	15,911	9.8	35.3	26,500
Life scientists	39,242	30.3	67.6	18,900	43,792	29.4	67.2	20,900	47,471	29.1	66.0	23,500
Biological scientists	26,837	20.7	72.8	18,500	28,893	19.4	73.9	20,400	30,829	18.9	73.1	22,800
Agricultural scientists	6,563	5.1	62.2	18,700	7,840	5.3	60.7	21,000	8,331	5.1	58.3	23,700
Medical scientists	5,842	4.5	54.9	21,200	7,069	4.7	53.5	24,100	8,311	5.1	53.7	25,800
Psychologists	15,106	11.7	60.8	19,200	17,703	11.9	58.9	21,000	18,572	11.4	55.1	22,700
Social scientists	23,047	17.8	82.0	19,500	27,696	18.6	80.3	21,200	33,398	20.5	78.2	23,100
Economists	6,060	4.7	73.1	20,800	6,925	4.6	70.0	22,800	7,496	4.6	69.5	25,100
Sociologists/anthropologists	6,001	4.6	91.9	19,200	7,354	4.9	92.7	20,500	8,547	5.2	90.0	22,100
Other social scientists	10,986	8.5	82.7	18,800	13,417	9.0	80.5	20,400	17,355	10.6	77.3	22,700

NOTES: Percents may not add to 100 because of rounding.
Median salaries completed for full-time employed civilians only.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306

TABLE 37

NUMBER AND MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED IN BUSINESS AND INDUSTRY BY FIELD, 1973-1977

Field	1973				1975				1977			
	Number	Percent	Percent of total employed	Median annual salary	Number	Percent	Percent of total employed	Median annual salary	Number	Percent	Percent of total employed	Median annual salary
Total	53,403	100.0	24.2	$23,300	64,630	100.0	25.2	$26,000	71,464	100.0	25.1	$29,900
Physical scientists	19,659	36.8	40.6	22,700	22,117	34.2	40.5	25,900	22,980	32.2	40.0	29,900
Chemists	15,746	29.5	51.3	22,600	18,085	28.0	50.5	25,900	18,664	26.1	50.0	30,000
Physicists/astronomers	3,913	7.3	22.0	23,700	4,032	6.2	21.4	25,900	4,316	6.0	21.4	29,700
Mathematical scientists	873	1.6	7.2	24,100	1,053	1.6	7.7	25,600	1,282	1.8	8.8	27,400
Mathematicians	672	1.3	6.3	24,000	836	1.3	7.0	26,100	996	1.4	7.7	27,300
Statisticians	201	.4	13.8	25,100	217	.3	12.5	24,500	286	.4	16.7	27,600
Computer specialists	998	1.9	37.1	22,300	1,414	2.2	40.4	24,100	3,058	4.3	53.0	26,700
Environmental scientists	2,204	4.1	21.3	22,600	2,918	4.5	24.1	26,200	3,103	4.3	23.8	28,600
Earth scientists	2,083	3.9	24.4	22,500	2,671	4.1	28.0	26,500	2,700	3.8	27.6	28,600
Oceanographers	96	.2	8.3	(1)	76	.1	6.0	(1)	135	.2	8.6	(1)
Atmospheric scientists	25	(2)	3.9	(1)	171	.3	13.0	22,600	268	.4	15.8	29,200
Engineers	17,768	33.3	49.7	23,300	22,118	34.2	52.2	26,100	22,870	32.0	50.8	30,000
Life scientists	7,246	13.6	12.5	23,300	8,834	13.7	13.6	25,500	10,064	14.1	14.0	28,700
Biological scientists	3,326	6.2	9.0	22,800	3,498	5.4	9.0	24,800	4,011	5.6	9.5	27,400
Agricultural scientists	1,796	3.4	17.0	21,800	2,517	3.9	19.5	23,200	2,858	4.0	20.0	26,800
Medical scientists	2,124	4.0	20.0	26,300	2,819	4.4	21.4	29,700	3,195	4.5	20.7	33,200
Psychologists	3,081	5.8	12.4	30,000	4,124	6.4	13.7	30,500	5,525	7.7	16.4	33,300
Social scientists	1,576	3.0	5.6	27,500	2,052	3.2	6.0	28,300	2,582	3.6	6.0	30,200
Economists	944	1.8	11.4	29,700	1,234	1.9	12.5	30,900	1,385	1.9	12.8	34,100
Sociologists/anthropologists	125	.2	1.9	(1)	94	.1	1.2	(1)	193	.3	2.0	(1)
Other social scientists	507	.9	3.8	25,200	724	1.1	4.3	23,300	1,004	1.4	4.5	26,800

[1] No median computed for groups with fewer than 20 individuals reporting salary.

[2] Less than .05 percent.

NOTES: Percents may not add to 100 because of rounding.

Median salaries computed for full-time employed civilians only.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306

TABLE 38

NUMBER AND MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED BY THE FEDERAL GOVERNMENT[1] BY FIELD, 1973-1977

Field	1973				1975				1977			
	Number	Percent	Percent of total employed	Median annual salary	Number	Percent	Percent of total employed	Median annual salary	Number	Percent	Percent of total employed	Median annual salary
Total	18,200	100.0	8.3	$23,500	18,995	100.0	7.4	$26,300	21,353	100.0	7.5	$29,700
Physical scientists	4,104	22.5	8.5	23,400	3,745	19.7	6.9	26,000	3,941	18.5	6.9	29,700
Chemists	1,645	9.0	5.4	23,700	1,684	8.9	4.7	26,400	1,810	8.5	4.9	29,100
Physicists/astronomers	2,459	13.5	13.8	23,300	2,061	10.9	10.9	25,700	2,131	10.0	10.6	30,100
Mathematical scientists	487	2.7	4.0	23,600	556	2.9	4.1	27,700	593	2.8	4.1	29,300
Mathematicians	355	2.0	3.3	22,900	372	2.0	3.1	26,000	438	2.1	3.4	29,400
Statisticians	132	.7	9.0	26,200	184	1.0	10.6	30,200	155	.7	9.0	(2)
Computer specialists	123	.7	4.6	22,200	194	1.0	5.5	25,000	251	1.2	4.4	30,500
Environmental scientists	1,959	10.8	19.0	23,800	2,210	11.6	18.2	27,500	2,415	11.5	16.5	30,700
Earth scientists	1,539	8.5	18.0	24,100	1,557	8.2	16.3	27,700	1,634	7.7	16.7	30,600
Oceanographer	197	1.1	17.0	22,500	239	1.3	18.7	28,700	287	1.3	18.4	28,300
Atmospheric scientists	223	1.2	35.0	23,400	414	2.2	31.4	27,200	494	2.3	29.1	31,400
Engineers	2,730	15.0	7.6	23,400	3,029	15.9	7.1	26,700	3,519	16.5	7.8	30,000
Life scientists	6,108	33.6	10.5	22,800	6,279	33.1	9.6	25,400	6,760	31.7	9.4	28,400
Biological scientists	3,444	18.9	9.3	22,400	3,442	18.1	8.6	25,100	3,367	15.8	8.0	27,900
Agricultural scientists	1,822	10.0	17.3	22,600	2,039	10.7	15.8	25,000	2,496	11.7	17.5	27,700
Medical scientists	842	4.6	7.9	26,000	796	4.2	6.1	29,100	897	4.2	5.8	32,400
Psychologists	1,237	6.8	5.0	23,600	970	5.1	3.2	26,800	1,231	5.8	3.7	30,600
Social scientists	1,452	8.0	5.2	26,000	2,012	10.6	5.6	29,300	2,643	12.4	6.2	31,400
Economists	651	3.6	7.9	26,800	916	4.8	9.3	27,600	950	4.4	8.8	32,900
Sociologists/anthropologists	64	.4	1.0	(2)	155	.8	2.0	(2)	132	.6	1.4	(2)
Other social scientists	737	4.0	5.5	29,000	939	4.9	5.6	30,900	1,561	7.3	7.0	31,300

[1] Civilian Employees only.

[2] No median computed for groups with fewer than 20 individuals reporting salary.

NOTES: Percents may not add to 100 because of rounding.
Median salaries computed for full-time employed civilians only.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306.

TABLE 39

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND PRIMARY WORK ACTIVITY, 1977

FIELD	Total	Research & Development				Management or Administration				Teaching	Consulting	Sales Prof. Serv.	Other	No Report
		Total	Basic Res.	Applied Res.	Development	Total	Of R&D	Other than R&D	Of Both					
ALL FIELDS	$25,600	$25,600	$24,600	$26,300	$26,100	$31,900	$33,100	$30,200	$32,200	$22,600	$28,200	$24,700	$24,700	$25,400
PHYSICAL SCIENTISTS	26,600	26,300	25,300	27,000	26,700	33,400	34,300	31,000	32,700	22,600	30,500	27,500	25,300	29,400
Chemists	26,600	26,100	25,200	26,400	26,800	33,300	33,800	33,000	32,100	22,200	30,400	26,800	25,700	26,300
Physicists/Astronomers	26,500	26,800	25,500	28,300	26,300	33,500	35,000	29,800	33,900	23,100	*	29,400	22,900	*
MATHEMATICAL SCIENTISTS	23,300	25,800	24,800	27,700	25,500	29,900	33,000	29,200	28,400	21,700	*	*	22,800	*
Mathematicians	23,100	25,700	24,800	28,200	25,300	29,100	33,900	28,200	27,000	21,600	*	*	22,700	*
Statisticians	25,100	26,400	*	27,000	*	31,700	*	*	*	22,200	*	*	*	*
COMPUTER SPECIALISTS	25,800	24,900	26,900	28,100	24,200	31,400	33,100	30,200	32,100	22,900	*	*	17,800	*
ENVIRONMENTAL SCIENTISTS	25,800	25,800	25,900	25,700	25,700	31,400	32,500	30,400	32,100	22,400	28,500	*	25,300	22,700
Earth Scientists	25,900	26,600	27,500	26,100	*	31,400	32,500	30,500	33,100	22,000	28,000	*	25,500	23,000
Oceanographers	24,100	22,600	21,900	24,500	*	29,400	29,500	*	*	23,900	*	*	*	*
Atmospheric Scientists	28,300	26,800	27,900	24,300	*	32,100	33,700	*	*	25,800	*	*	*	*
ENGINEERS	28,600	27,000	27,700	27,000	27,000	34,200	34,500	33,300	34,800	25,200	30,300	28,700	26,300	29,700
LIFE SCIENTISTS	24,700	24,100	23,800	24,600	23,500	31,300	31,900	30,200	32,300	22,500	25,500	25,700	23,300	24,500
Biological Scientists	23,800	23,800	23,600	25,000	22,500	30,400	30,800	29,200	31,400	21,900	25,300	23,500	23,600	24,400
Agricultural Scientists	24,800	24,300	25,200	24,100	25,000	30,900	31,400	30,400	30,200	23,100	25,500	22,500	22,600	26,200
Medical Scientists	28,000	24,900	24,300	26,300	24,600	33,300	34,200	31,000	34,000	25,400	28,000	34,600	24,300	23,900
PSYCHOLOGISTS	24,100	24,300	23,000	25,200	23,600	28,100	30,800	26,800	29,400	21,900	25,500	23,800	25,400	22,800
SOCIAL SCIENTISTS	24,100	24,800	24,200	26,000	20,600	29,900	30,200	29,500	29,800	22,300	28,900	26,000	25,100	25,500
Economists	27,000	27,800	25,800	29,200	*	35,300	35,400	32,200	43,100	24,500	35,300	*	29,800	*
Sociologists/ Anthropologists	22,200	22,500	22,300	23,700	*	27,300	26,700	28,100	28,600	21,300	*	*	22,400	26,100
Other Social Scientists	23,200	24,000	24,200	24,300	20,200	28,700	29,500	28,500	28,000	21,700	25,600	25,200	24,000	24,100

NOTE: All median salaries were computed only for full-time employed civilians.

* No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306.

TABLE 40

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND GEOGRAPHIC AREA, 1977

FIELD	Total	GEOGRAPHIC AREA								
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
ALL FIELDS	$25,600	$24,800	$26,800	$25,200	$23,800	$26,500	$23,200	$24,900	$25,000	$26,000
PHYSICAL SCIENTISTS	26,600	26,400	28,100	25,600	24,700	27,500	24,200	25,900	26,900	26,500
Chemists	26,600	26,200	28,400	26,000	25,100	27,400	24,200	26,700	24,800	26,000
Physicists/Astronomers	26,500	26,600	27,000	24,600	23,700	27,700	24,300	24,300	28,800	27,200
MATHEMATICAL SCIENTISTS	23,300	22,000	24,600	22,800	21,600	23,700	22,100	22,900	23,400	24,800
Mathematicians	23,100	21,900	24,200	22,500	21,400	23,600	21,000	22,700	23,700	24,800
Statisticians	25,100	*	29,500	25,500	*	25,600	*	*	*	*
COMPUTER SPECIALISTS	25,800	24,300	29,200	25,200	23,300	26,400	*	25,300	26,500	26,200
ENVIRONMENTAL SCIENTISTS	25,800	25,500	25,700	24,200	24,600	27,900	24,200	26,700	25,700	26,100
Earth Scientists	25,900	26,500	25,900	24,100	24,300	27,200	25,100	26,700	25,200	27,300
Oceanographers	24,100	22,100	*	*	*	29,100	*	*	*	24,500
Atmospheric Scientists	28,300	33,200	*	*	*	29,100	*	*	30,000	27,400
ENGINEERS	28,600	29,100	30,000	27,300	26,100	29,700	27,000	28,400	28,100	28,900
LIFE SCIENTISTS	24,700	23,700	25,600	25,200	23,900	25,500	22,700	24,000	23,500	24,900
Biological Scientists	23,800	23,100	24,700	24,400	23,000	24,500	21,100	22,700	22,600	24,100
Agricultural Scientists	24,800	23,400	26,500	25,700	23,700	25,600	24,100	24,400	23,800	25,300
Medical Scientists	28,000	27,300	30,000	27,600	26,900	29,900	25,900	26,400	27,300	25,800
PSYCHOLOGISTS	24,100	23,100	25,100	23,800	23,400	24,400	22,200	23,300	23,100	24,900
SOCIAL SCIENTISTS	24,100	22,900	24,800	23,800	22,000	26,100	22,100	22,600	22,900	24,800
Economists	27,000	25,100	28,300	25,900	25,900	30,300	24,800	25,800	25,300	27,800
Sociologists/ Anthropologists	22,200	23,100	22,800	23,000	20,000	22,100	21,100	20,500	23,400	22,400
Other Social Scientists	23,200	21,200	24,800	22,700	20,900	25,300	21,400	21,700	22,400	24,500

NOTE: All median salaries were computed only for full-time employed civilians.

* No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306.

TABLE 41

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND YEARS OF PROFESSIONAL EXPERIENCE, 1977

FIELD	Total	YEARS OF PROFESSIONAL EXPERIENCE										
		1 or less	2-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 or more	No Report
ALL FIELDS	$25,600	$17,800	$19,000	$22,000	$25,500	$28,200	$30,700	$32,200	$32,500	$33,900	$33,600	$26,100
PHYSICAL SCIENTISTS	26,600	20,000	20,200	22,600	26,400	29,300	32,000	33,800	32,700	35,600	35,100	27,100
Chemists	26,600	20,200	20,200	23,100	26,400	28,800	31,700	33,100	32,800	35,600	34,200	27,500
Physicists & Astronomers	26,500	18,400	20,300	21,800	26,400	29,900	32,500	34,600	32,300	35,600	36,400	*
MATHEMATICAL SCIENTISTS	23,300	15,600	17,400	20,000	23,500	25,800	28,900	31,000	31,000	33,200	33,500	*
Mathematicians	23,100	15,500	17,300	19,700	23,400	25,500	28,900	30,800	30,600	32,800	33,800	*
Statisticians	25,100	*	17,900	23,500	24,300	28,800	30,100	*	*	*	*	*
COMPUTER SPECIALISTS	25,800	*	19,000	23,900	28,000	28,600	33,700	35,100	*	*	*	*
ENVIRONMENTAL SCIENTISTS	25,800	*	20,600	21,400	25,600	28,400	32,500	32,600	34,900	34,500	36,300	*
Earth Scientists	25,900	*	20,700	21,500	25,400	28,400	31,900	31,200	34,800	34,800	34,900	*
Oceanographers	24,100	*	19,800	20,100	25,400	*	*	*	*	*	*	*
Atmospheric Scientists	28,300	*	20,000	22,400	28,500	29,600	33,300	37,200	*	*	*	*
ENGINEERS	28,600	20,200	21,900	25,800	28,200	30,600	32,600	34,500	35,400	34,200	36,700	27,400
LIFE SCIENTISTS	24,700	17,700	18,800	21,400	24,700	27,100	29,600	31,300	31,200	32,400	31,500	23,100
Biological Scientists	23,800	17,700	18,400	20,800	24,100	26,500	29,100	30,900	30,500	32,400	30,800	20,400
Agricultural Scientists	24,800	*	19,300	21,300	24,200	26,100	28,700	30,000	30,800	29,100	30,300	*
Medical Scientists	28,000	17,400	20,200	24,100	28,500	31,200	33,200	35,500	34,700	35,600	39,600	27,100
PSYCHOLOGISTS	24,100	15,900	18,000	21,100	24,400	26,300	29,900	30,800	30,800	31,000	31,900	24,500
SOCIAL SCIENTISTS	24,100	16,300	17,700	20,600	24,200	26,400	28,900	30,800	31,800	33,600	34,300	25,400
Economists	27,000	*	20,300	23,600	27,700	28,800	32,000	32,700	31,900	36,100	36,600	*
Sociologists/ Anthropologists	22,200	*	17,200	19,300	22,800	25,900	26,700	30,500	30,500	34,000	*	*
Other Social Scientists	23,200	*	17,200	19,900	22,900	25,800	28,700	30,300	32,100	32,000	31,900	25,200

NOTE: All median salaries were computed only for full-time employed civilians.

* No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306.

TABLE 42

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND AGE, 1977

FIELD	Total	AGE										
		24 & Under	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 & Over
ALL FIELDS	$25,600	*	$18,500	$20,400	$23,600	$26,500	$29,200	$30,900	$31,600	$31,400	$31,400	$29,500
PHYSICAL SCIENTISTS	26,600	*	20,100	21,100	24,200	28,100	30,500	32,600	33,300	34,000	31,400	*
Chemists	26,600	*	19,900	21,200	24,400	28,200	30,400	32,300	32,600	34,600	30,600	*
Physicists & Astronomers	26,500	*	21,400	20,900	23,700	27,800	30,700	33,200	34,200	33,000	36,100	*
MATHEMATICAL SCIENTISTS	23,300	*	16,600	18,900	22,400	24,900	28,100	30,900	30,700	30,900	36,000	*
Mathematicians	23,100	*	16,300	18,800	22,100	24,800	28,000	30,800	30,400	30,400	36,200	*
Statisticians	25,100	*	*	19,900	23,700	28,000	30,100	*	*	*	*	*
COMPUTER SPECIALISTS	25,800	*	19,600	21,600	25,600	28,800	32,800	33,200	35,200	*	*	*
ENVIRONMENTAL SCIENTISTS	25,800	*	20,100	20,400	23,800	25,800	29,300	32,400	33,000	34,500	33,800	*
Earth Scientists	25,900	*	*	20,800	23,600	25,400	28,700	31,400	31,900	34,500	33,700	*
Oceanographers	24,100	*	*	19,200	23,400	25,600	29,400	*	*	*	*	*
Atmospheric Scientists	28,300	*	*	20,000	26,300	29,300	33,500	37,200	*	*	*	*
ENGINEERS	28,600	*	21,300	24,100	27,200	29,500	31,300	34,000	34,800	34,400	33,500	*
LIFE SCIENTISTS	24,700	*	18,000	19,500	22,300	25,300	27,700	30,100	30,400	30,500	30,300	30,800
Biological Scientists	23,800	*	17,500	19,100	21,800	24,400	26,800	29,700	29,800	30,200	30,000	*
Agricultural Scientists	24,800	*	*	20,000	22,100	24,700	26,400	28,500	30,000	28,500	27,600	*
Medical Scientists	28,000	*	18,400	20,500	25,100	30,500	30,700	32,800	33,700	35,800	32,900	*
PSYCHOLOGISTS	24,100	*	17,400	19,300	22,200	25,100	27,000	29,200	30,300	30,400	30,000	*
SOCIAL SCIENTISTS	24,100	*	18,400	19,100	22,000	24,200	26,200	29,000	30,300	30,500	34,500	*
Economists	27,000	*	20,100	22,500	25,700	26,800	30,500	30,400	33,300	31,500	39,500	*
Sociologists/ Anthropologists	22,200	*	*	17,800	20,000	23,100	24,900	26,500	29,100	30,100	35,000	*
Other Social Scientists	23,200	*	18,000	18,400	21,200	23,700	25,800	29,300	30,200	30,100	33,200	*

NOTE: All median salaries were computed only for full-time employed civilians.

* No Median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306.

TABLE 43

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD, SEX, AND RACE, 1977

FIELD	TOTAL	SEX		RACE				
		Men	Women	White/ Caucasian	Black Negro	American Indian	Asian	No Report
ALL FIELDS	$25,600	$26,000	$20,700	$25,700	$23,800	$23,900	$23,800	$25,700
PHYSICAL SCIENTISTS	26,600	26,800	21,200	26,800	23,900	*	23,300	26,500
Chemists	26,600	27,000	20,900	26,900	24,200	*	23,200	26,000
Physicists/Astronomers	26,500	26,600	23,100	26,700	*	*	23,300	27,300
MATHEMATICAL SCIENTISTS	23,300	23,600	19,900	23,400	23,200	*	22,100	23,100
Mathematicians	23,100	23,400	19,900	23,200	22,800	*	22,500	23,100
Statisticians	25,100	25,400	19,800	25,500	*	*	*	*
COMPUTER SPECIALISTS	25,800	26,100	20,800	26,500	*	*	21,200	*
ENVIRONMENTAL SCIENTISTS	25,800	26,000	19,700	25,900	*	*	23,500	30,800
Earth Scientists	25,900	26,000	20,000	25,900	*	*	23,500	29,100
Oceanographers	24,100	24,400	19,200	24,100	*	*	*	*
Atmospheric Scientists	28,300	28,900	19,200	27,800	*	*	22,700	*
ENGINEERS	28,600	28,700	22,900	29,300	28,600	*	25,000	27,800
LIFE SCIENTISTS	24,700	25,100	21,000	24,800	24,800	22,500	22,600	24,600
Biological Scientists	23,800	24,300	20,500	23,900	24,700	*	22,100	23,600
Agricultural Scientists	24,800	24,900	20,200	25,000	*	*	20,600	25,300
Medical Scientists	28,000	28,900	22,800	28,300	26,900	*	25,400	26,500
PSYCHOLOGISTS	24,100	24,900	20,600	24,100	21,500	22,300	24,400	25,700
SOCIAL SCIENTISTS	24,100	24,700	20,200	24,100	22,900	*	22,900	24,900
Economists	27,000	27,500	23,600	27,000	*	*	25,900	28,300
Sociologists/ Anthropologists	22,200	22,900	19,700	22,200	23,200	*	22,200	22,600
Other Social Scientists	23,200	23,900	19,800	23,300	22,700	*	21,100	24,500

NOTE: All median salaries were computed only for full-time employed civilians.

* No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: Battelle Columbus Laboratories, 1978 National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities, December 1978

TABLE 44

NUMBER AND MEAN MONTHLY SALARIES OF BACHELOR'S DEGREE NONSUPERVISORY SCIENTISTS AND ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE DEGREE, 1978

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE									
	2	4	7	10	13	15	20-21	24-25	30-31	TOTAL*
Aeronautical and Astronautical Engineering	(53) $1,408	(43) $1,600	(58) $1,771	(65) $1,969	(55) $2,084	(80) $2,224	(179) $2,412	(110) $2,435	(78) $2,601	(2,203) $2,178
Chemical Engineering	(98) 1,500	(64) 1,613	(35) 1,726	(40) 1,925	(24) 2,142	(27) 2,156	(42) 2,319	(36) 2,458	(35) 2,343	(1,329) 1,953
Electrical and Electronic Engineering	(837) 1,477	(608) 1,609	(427) 1,769	(392) 1,990	(306) 2,140	(327) 2,233	(811) 2,403	(450) 2,463	(279) 2,514	(13,832) 2,006
Industrial Engineering	(16) 1,438	(5) 1,660	(4) 1,700	(10) 1,780	(4) 1,825	(2) 2,000	(6) 2,283	(6) 2,350	(3) 2,600	(179) 1,860
Materials Engineering	(32) 1,328	(27) 1,500	(13) 1,700	(17) 1,841	(10) 1,960	(13) 2,008	(26) 2,165	(23) 2,170	(20) 2,155	(564) 1,896
Mechanical Engineering	(112) 1,499	(113) 1,601	(62) 1,794	(65) 1,952	(57) 2,075	(45) 2,176	(131) 2,263	(114) 2,327	(74) 2,305	(2,349) 2,001
Metallurgical Engineering	(7) 1,400	(6) 1,433	(4) 1,700	(6) 1,750	(1) 1,800	(3) 1,533	(15) 2,220	(7) 2,000	(8) 2,213	(220) 1,940
Mining and Petroleum Engineering	(4) 1,500	(5) 1,720	(7) 1,729	(3) 2,133	(3) 2,333	(3) 2,533	(6) 2,133	(6) 2,833	(3) 2,200	(135) 2,155
Nuclear and Reactor Engineering	(31) 1,423	(52) 1,625	(18) 1,789	(21) 2,081	(18) 2,383	(15) 2,253	(32) 2,547	(26) 2,615	(13) 2,969	(698) 2,150
Total Engineering	(1,229) 1,466	(950) 1,602	(650) 1,764	(635) 1,971	(500) 2,128	(530) 2,214	(1,303) 2,376	(808) 2,432	(525) 2,475	(22,204) 2,021
Agricultural and Biological Sciences	(77) 930	(76) 1,072	(37) 1,168	(27) 1,400	(16) 1,638	(18) 1,567	(22) 1,800	(16) 1,775	(12) 1,883	(839) 1,299
Atmospheric, Earth, Marine & Space Sciences	(10) 1,130	(15) 1,193	(10) 1,730	(7) 1,671	(2) 1,600	(2) 2,500	(3) 2,233	(4) 1,775	(4) 2,475	(161) 1,593
Chemistry	(134) 1,172	(108) 1,265	(77) 1,460	(65) 1,666	(50) 1,764	(38) 1,726	(81) 2,040	(72) 2,064	(67) 2,158	(2,129) 1,693
Computer Sciences	(134) 1,357	(120) 1,464	(70) 1,600	(37) 1,776	(34) 2,015	(35) 2,037	(48) 2,146	(30) 2,223	(12) 2,192	(1,583) 1,675
Mathematics & Statistics	(23) 1,170	(30) 1,517	(28) 1,596	(29) 1,969	(24) 2,033	(18) 2,072	(17) 2,412	(13) 2,408	(7) 2,157	(556) 1,922
Physics	(15) 1,280	(24) 1,413	(25) 1,644	(28) 2,025	(24) 2,133	(27) 2,293	(33) 2,479	(24) 2,517	(18) 2,528	(731) 2,080
Economics	(8) 1,175	(9) 1,356	(3) 1,500	(3) 2,033	(1) 2,200	(1) 2,900	(1) 2,100	(3) 2,100	(-) -	(102) 1,801

* Total Includes All Years Since First Degree

SOURCE: Battelle Columbus Laboratories, 1978 National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities, December 1978

TABLE 45

NUMBER AND MEAN MONTHLY SALARIES OF MASTER'S DEGREE NONSUPERVISORY SCIENTISTS AND ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE DEGREE,1978

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE									
	2	4	7	10	13	15	20-21	24-25	30-31	TOTAL*
Aeronautical and Astronautical Engineering	(9) $1,522	(15) $1,593	(33) $1,836	(31) $1,987	(45) $2,262	(49) $2,384	(75) $2,489	(64) $2,477	(59) $2,690	(1,173) $2,339
Chemical Engineering	(31) 1,639	(56) 1,634	(42) 1,893	(24) 1,979	(19) 2,247	(18) 2,172	(23) 2,557	(25) 2,408	(22) 2,645	(718) 2,094
Electrical and Electronic Engineering	(111) 1,598	(251) 1,683	(277) 1,849	(281) 2,060	(283) 2,252	(273) 2,368	(463) 2,549	(287) 2,613	(231) 2,716	(7,202) 2,265
Industrial Engineering	(2) 1,550	(5) 1,760	(2) 1,650	(6) 2,083	(5) 2,220	(5) 2,500	(6) 2,350	(4) 2,400	(4) 2,375	(110) 2,158
Materials Engineering	(6) 1,517	(6) 1,500	(11) 1,736	(11) 1,873	(7) 2,114	(6) 2,417	(11) 2,209	(17) 2,324	(7) 2,557	(264) 2,084
Mechanical Engineering	(17) 1,488	(49) 1,608	(44) 1,843	(57) 2,032	(40) 2,215	(41) 2,280	(59) 2,414	(46) 2,470	(33) 2,564	(1,063) 2,146
Metallurgical Engineering	(3) 1,467	(9) 1,644	(7) 1,671	(4) 2,100	(4) 2,300	(8) 2,263	(2) 2,550	(5) 2,440	(4) 1,975	(134) 2,081
Mining and Petroleum Engineering	(6) 1,717	(2) 1,650	(3) 1,833	(7) 1,914	(4) 2,075	(3) 2,133	(5) 2,400	- -	(6) 2,967	(114) 2,373
Nuclear Engineering	(15) 1,500	(25) 1,688	(27) 1,874	(21) 2,270	(21) 2,452	(28) 2,521	(19) 2,537	(15) 2,900	(20) 2,745	(562) 2,260
Total Engineering	(209) 1,579	(438) 1,655	(471) 1,835	(459) 2,038	(442) 2,250	(440) 2,359	(687) 2,516	(481) 2,567	(394) 2,686	(11,767) 2,237
Agricultural and Biological Sciences	(7) 1,371	(28) 1,300	(27) 1,448	(30) 1,580	(11) 1,482	(14) 1,600	(19) 1,974	(13) 1,792	(14) 1,950	(475) 1,600
Atmospheric, Earth, Marine & Space Sciences	(4) 1,450	(13) 1,392	(16) 1,650	(7) 1,971	(8) 1,713	(2) 2,400	(7) 2,186	(2) 1,550	(3) 2,933	(171) 1,795
Chemistry	(12) 1,375	(33) 1,382	(28) 1,604	(34) 1,679	(30) 1,777	(19) 1,911	(36) 2,167	(45) 2,262	(43) 2,449	(880) 1,936
Economics	(6) 1,267	(16) 1,500	(5) 1,700	(12) 1,775	(6) 2,333	(2) 2,350	(6) 2,383	(7) 2,343	(5) 2,340	(166) 1,945
Computer Sciences	(17) 1,500	(36) 1,514	(56) 1,696	(43) 1,872	(27) 2,059	(32) 2,184	(41) 2,249	(18) 2,233	(9) 2,444	(800) 1,955
Mathematics and Statistics	(6) 1,467	(20) 1,480	(20) 1,680	(16) 1,906	(21) 2,129	(14) 2,057	(21) 2,367	(15) 2,513	(11) 2,618	(445) 2,114
Physics	(7) 1,571	(11) 1,355	(14) 1,629	(20) 1,955	(30) 2,213	(21) 2,286	(43) 2,630	(34) 2,506	(20) 2,615	(603) 2,265

* Total includes all years since first degree.

SOURCE: Battelle Columbus Laboratories, 1978 National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities, December 1978

TABLE 46

NUMBER AND MEAN MONTHLY SALARIES OF DOCTORATE DEGREE NONSUPERVISORY SCIENTISTS AND ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE DEGREE, 1978

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE									
	5	7	10	13	15	18-19	22-23	26-27	30-31	TOTAL*
Aeronautical and Astronautical Engineering	(3) $2,267	(7) $1,900	(9) $2,233	(19) $2,300	(19) $2,363	(20) $2,745	(25) $2,720	(12) $2,908	(8) $2,775	(3,081) $2,550
Chemical Engineering	(6) 2,067	(14) 2,064	(27) 2,256	(29) 2,414	(25) 2,640	(54) 2,654	(24) 2,738	(18) 2,867	(9) 2,767	(503) 2,506
Electrical and Electronic Engineering	(17) 1,971	(56) 2,016	(74) 2,231	(122) 2,389	(97) 2,526	(137) 2,673	(78) 2,841	(51) 2,910	(44) 2,984	(1,670) 2,527
Materials Engineering	(2) 1,800	(7) 2,100	(9) 2,000	(8) 2,250	(9) 2,478	(14) 2,700	(7) 3,043	(5) 2,800	(3) 2,800	(170) 2,425
Mechanical Engineering	(4) 1,750	(16) 2,125	(22) 2,145	(38) 2,429	(18) 2,289	(24) 2,483	(17) 2,712	(9) 3,100	(9) 2,767	(390) 2,430
Metallurgical Engineering	(3) 1,700	(8) 1,913	(9) 2,122	(8) 2,263	(7) 2,357	(9) 2,422	(6) 2,867	(2) 3,350	(3) 2,367	(147) 2,362
Mining and Petroleum Engineering	(1) 1,900	(2) 2,450	(3) 2,167	(8) 2,563	(9) 2,833	(9) 2,778	(10) 3,210	(9) 3,644	(11) 4,209	(162) 3,031
Nuclear Engineering	(1) 1,900	(4) 1,775	(13) 2,177	(24) 2,400	(16) 2,588	(17) 2,776	(17) 2,741	(12) 2,958	(8) 2,963	(250) 2,550
Total Engineering	(42) 1,933	(126) 1,994	(181) 2,196	(271) 2,380	(213) 2,506	(308) 2,648	(189) 2,808	(131) 2,970	(103) 2,984	(3,864 2,516
Agricultural & Biological Sciences	(11) 1,336	(43) 1,460	(39) 1,810	(45) 1,851	(39) 2,087	(48) 2,127	(35) 2,351	(24) 2,446	(18) 2,411	(787) 1,947
Atmospheric Earth, Marine & Space Sciences	(2) 1,700	(11) 1,618	(11) 1,818	(15) 2,173	(4) 2,000	(15) 2,287	(5) 2,580	(9) 2,289	(3) 2,700	(174) 2,139
Computer Sciences	(3) 1,967	(4) 1,950	(12) 2,125	(15) 2,067	(13) 2,285	(14) 2,386	(6) 2,600	(2) 2,500	(4) 2,900	(193) 2,309
Mathematics & Statistics	(6) 1,933	(6) 2,050	(18) 2,061	(24) 2,263	(17) 2,406	(18) 2,589	(18) 2,761	(8) 2,650	(8) 2,738	(327) 2,369
Physics	(8) 1,563	(72) 1,667	(89) 1,915	(94) 2,005	(82) 2,246	(99) 2,377	(80) 2,726	(89) 2,797	(57) 2,765	(1,748) 2,305
Economics	- -	(8) 1,788	(12) 2,258	(11) 2,318	(6) 2,600	(7) 2,414	(1) 3,700	(3) 2,833	(2) 3,050	(127) 2,370
Psychology	(2) 1,400	(8) 1,700	(9) 1,822	(9) 2,089	(5) 2,180	(6) 2,283	(8) 2,313	(6) 2,650	(5) 2,500	(163) 2,129

* Total includes all years since first degree.

SOURCE: Battelle Columbus Laboratories, 1978 National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities, December 1978

TABLE 47

NUMBER AND MEAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS AND ENGINEERS BY DEGREE LEVEL, TYPE OF ESTABLISHMENT, AND SELECTED YEARS SINCE FIRST DEGREE, 1978

TYPE OF ESTABLISHMENT AND DEGREE LEVEL	SELECTED YEARS SINCE FIRST DEGREE									
	2	4	7	10	13	15	20-21	24-25	30-31	Total*
BACHELOR'S DEGREE										
Nonprofit Research Institutes	(150) $1,072	(134) $1,149	(97) $1,431	(61) $1,661	(46) $1,789	(32) $1,803	(45) $1,896	(36) $1,944	(41) $1,988	(1,810) $1,504
Educational Institutions	(52) 1,152	(43) 1,221	(25) 1,352	(11) 1,382	(17) 1,712	(13) 1,769	(20) 1,915	(11) 1,936	(10) 1,970	(549) 1,464
Contract Research Centers	(129) 1,385	(173) 1,568	(85) 1,701	(84) 1,994	(80) 2,065	(84) 2,162	(226) 2,390	(144) 2,444	(117) 2,521	(3,624) 2,077
Federal Establishments	(34) 1,344	(80) 1,556	(104) 1,789	(84) 2,015	(72) 2,136	(66) 2,277	(144) 2,488	(67) 2,515	(39) 2,626	(2,032) 2,142
Total Industry	(1,378) 1,440	(1,044) 1,568	(654) 1,719	(669) 1,928	(497) 2,108	(528) 2,184	(1,217) 2,349	(809) 2,400	(530) 2,429	(22,964) 1,972
MASTER'S DEGREE										
Nonprofit Research Institutes	(24) 1,383	(63) 1,338	(58) 1,533	(49) 1,749	(43) 1,995	(34) 2,044	(56) 2,202	(33) 2,055	(22) 2,136	(1,150) 1,825
Educational Institutions	(9) 1,367	(27) 1,330	(37) 1,373	(26) 1,581	(22) 1,705	(24) 1,708	(30) 1,960	(23) 2,017	(27) 2,004	(636) 1,672
Contract Research Centers	(58) 1,533	(106) 1,581	(151) 1,804	(118) 2,062	(120) 2,228	(112) 2,321	(174) 2,522	(145) 2,541	(131) 2,657	(3,279) 2,226
Federal Establishments	(4) 1,550	(13) 1,623	(50) 1,750	(57) 1,951	(49) 2,127	(43) 2,272	(53) 2,485	(23) 2,426	(26) 2,562	(993) 2,209
Total Industry	(200) 1,570	(444) 1,632	(440) 1,826	(454) 2,003	(417) 2,216	(404) 2,350	(655) 2,510	(473) 2,548	(351) 2,687	(11,273) 2,212
DOCTORATE DEGREE										
Nonprofit Research Institutes	- -	(5) 1,520	(51) 1,525	(63) 1,821	(65) 2,017	(55) 2,244	(53) 2,353	(35) 2,363	(22) 2,495	(1,071) 2,096
Educational Institutions	- -	(9) 967	(59) 1,346	(44) 1,614	(66) 1,908	(48) 1,967	(57) 2,154	(48) 2,285	(25) 2,552	(1,148) 1,910
Contract Research Centers	- -	(6) 1,883	(89) 1,918	(136) 2,096	(193) 2,330	(134) 2,413	(159) 2,667	(120) 2,728	(86) 2,897	(2,893) 2,433
Federal Establishments	- -	- -	(6) 1,533	(13) 1,846	(25) 2,132	(28) 2,250	(34) 2,409	(28) 2,621	(16) 2,606	(524) 2,397
Total Industry	(7) 1,729	(30) 1,793	(180) 1,988	(273) 2,160	(337) 2,309	(265) 2,490	(322) 2,688	(215) 2,774	(139) 2,962	(5,326) 2,475

* Total includes all years since first degree.

SOURCE: Battelle Columbus Laboratories, 1978 National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities, December 1978

TABLE 48

NUMBER AND MEAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS AND ENGINEERS BY HIGHEST DEGREE FIELD AND SELECTED YEARS SINCE DEGREE, 1978

HIGHEST DEGREE FIELD	SELECTED YEARS SINCE FIRST DEGREE									
	2	4	7	10	13	15	20-21	24-25	30-31	Total*
Engineering[1]	(1,153) $1,475	(903) $1,609	(569) $1,778	(553) $1,994	(437) $2,144	(475) $2,234	(1,188) $2,393	(699) $2,455	(513) $2,502	(20,275) $2,033
Chemistry[1]	(139) 1,179	(121) 1,333	(71) 1,463	(77) 1,666	(61) 1,839	(53) 1,851	(106) 2,042	(105) 2,141	(86) 2,157	(2,560) 1,773
Physics[1]	(44) 1,380	(56) 1,498	(53) 1,694	(62) 1,987	(64) 2,048	(73) 2,186	(112) 2,401	(63) 2,441	(44) 2,495	(1,784) 2,080
Other Physical Sciences[1]	(27) 1,307	(26) 1,392	(23) 1,613	(14) 1,793	(5) 1,880	(6) 2,200	(25) 2,124	(12) 2,058	(7) 2,300	(421) 1,792
Life Sciences[1]	(99) 942	(94) 1,127	(53) 1,260	(34) 1,515	(19) 1,595	(17) 1,559	(23) 1,870	(19) 1,868	(16) 2,025	(1,093) 1,374
Social Sciences[1]	(25) 1,188	(24) 1,250	(12) 1,558	(8) 1,650	(6) 1,800	(3) 2,467	(6) 2,517	(8) 1,988	(4) 1,900	(294) 1,620
Mathematics & Statistics[1]	(109) 1,323	(119) 1,497	(86) 1,658	(78) 1,906	(67) 2,091	(42) 2,126	(71) 2,314	(52) 2,363	(19) 2,316	(1,837) 1,839
Engineering[2]	(205) 1,600	(403) 1,674	(421) 1,857	(373) 2,055	(365) 2,260	(386) 2,382	(589) 2,542	(363) 2,615	(308) 2,733	(10,008) 2,247
Chemistry[2]	(11) 1,364	(31) 1,352	(30) 1,577	(43) 1,740	(36) 1,847	(25) 1,864	(39) 2,200	(56) 2,248	(52) 2,438	(998) 1,973
Physics	(10) 1,450	(23) 1,461	(32) 1,700	(41) 1,907	(43) 2,142	(39) 2,231	(63) 2,563	(52) 2,458	(57) 2,549	(1,177) 2,221
Other Physical Sciences[2]	(4) 1,275	(28) 1,500	(38) 1,682	(43) 2,030	(35) 2,177	(28) 2,286	(33) 2,276	(24) 2,338	(13) 2,715	(767) 2,101
Life Sciences[2]	(8) 1,188	(41) 1,315	(33) 1,494	(33) 1,609	(19) 1,616	(14) 1,693	(25) 1,996	(16) 1,913	(13) 1,931	(624) 1,672
Social Sciences[2]	(4) 1,275	(23) 1,348	(23) 1,513	(19) 1,868	(8) 1,988	(5) 2,000	(5) 2,020	(10) 2,220	(5) 2,140	(298) 1,851
Mathematics & Statistics[2]	(20) 1,470	(39) 1,479	(51) 1,712	(46) 1,948	(43) 2,149	(40) 2,168	(71) 2,379	(45) 2,538	(34) 2,594	(1,100 2,101
Engineering[3]	- -	(13) 1,985	(108) 2,018	(156) 2,250	(242) 2,422	(182) 2,573	(206) 2,753	(116) 2,828	(66) 3,038	(3,141) 2,530
Chemistry[3]	- -	(5) 800	(75) 1,709	(105) 1,954	(115) 2,045	(98) 2,270	(100) 2,550	(111) 2,733	(77) 2,831	(2,145) 2,348
Physics[3]	- -	(2) 1,700	(45) 1,747	(72) 2,008	(98) 2,239	(87) 2,338	(112) 2,602	(62) 2,731	(55) 2,978	(1,813) 2,407
Other Physical Sciences[3]	- -	(2) 1,650	(25) 1,748	(40) 1,878	(38) 2,282	(30) 2,317	(31) 2,455	(34) 2,815	(11) 2,964	(616) 2,369
Life Sciences[3]	- -	(4) 1,325	(45) 1,440	(42) 1,781	(53) 1,885	(41) 2,098	(48) 2,281	(36) 2,275	(27) 2,511	(931) 2,021
Social Sciences[3]	- -	(- -	(15) 1,747	(25) 2,064	(24) 2,213	(18) 2,350	(13) 2,762	(9) 2,722	(11) 2,555	(355) 2,216
Mathematics & Statistics[3]	(1) 2,200	(1) 2,000	(18) 2,000	(26) 2,027	(37) 2,181	(19) 2,232	(15) 2,720	(13) 2,708	(9) 2,778	(449) 2,355

* Total includes all years since first degree

[1] Bachelor's Degree [2] Master's Degree [3] Doctorate Degree

SOURCE: Battelle Columbus Laboratories, *1978 National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities*, December 1978

TABLE 49

NUMBER AND MEAN MONTHLY SALARIES OF BACHELOR'S DEGREE NONSUPERVISORY SCIENTISTS AND ENGINEERS BY WORKING-AS-OCCUPATION, SEX, AND SELECTED YEARS SINCE DEGREE, 1978

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE DEGREE									
	2	4	7	10	13	15	20-21	24-25	30-31	Total*
Biological and Biomedical Sciences[1]	(37) $954	(30) $1,147	(21) $1,286	(15) $1,467	(13) $1,708	(11) $1,764	(16) $1,888	(8) $1,988	(7) $2,100	(421) $1,440
Biological and Biomedical Sciences[2]	(33) 891	(41) 995	(15) 1,013	(12) 1,317	(3) 1,333	(7) 1,257	(5) 1,460	(6) 1,583	(3) 1,100	(343) 1,101
Chemistry[1]	(76) 1,200	(78) 1,273	(54) 1,502	(57) 1,714	(39) 1,792	(30) 1,770	(71) 2,077	(60) 2,142	(53) 2,202	(1,646) 1,782
Chemistry[2]	(58) 1,136	(30) 1,243	(23) 1,361	(8) 1,325	(11) 1,664	(8) 1,563	(10) 1,770	(12) 1,675	(14) 1,993	(483) 1,387
Mathematics & Statistics[1]	(12) 1,233	(18) 1,578	(13) 1,738	(22) 2,000	(21) 2,067	(13) 2,146	(14) 2,521	(11) 2,445	(6) 2,300	(393) 2,041
Mathematics & Statistics[2]	(11) 1,100	(12) 1,425	(15) 1,473	(7) 1,871	(3) 1,800	(5) 1,880	(3) 1,900	(2) 2,200	(1) 1,300	(163) 1,636
Engineering[1]	(1,135) 1,472	(893) 1,610	(622) 1,768	(606) 1,981	(483) 2,136	(523) 2,215	(1,290) 2,381	(801) 2,435	(515) 2,483	(21,401) 2,038
Engineering[2]	(94) 1,389	(57) 1,475	(28) 1,668	(29) 1,769	(17) 1,876	(7) 2,100	(13) 1,877	(7) 2,057	(10) 2,100	(803) 1,567

* Total includes all years since first degree.

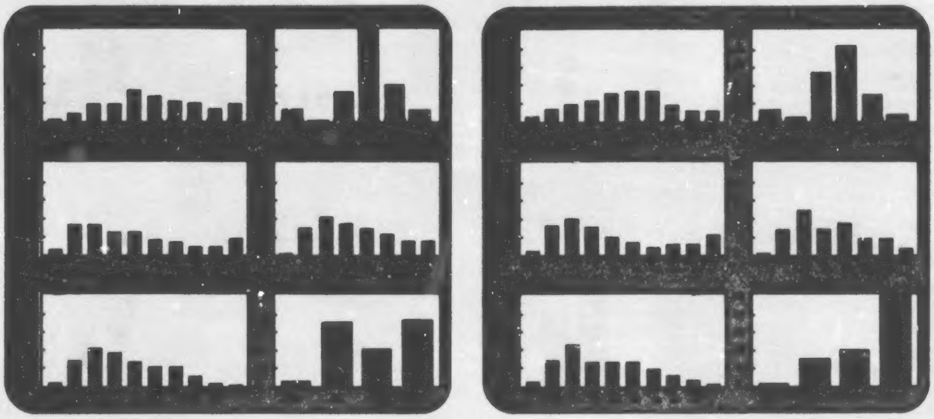
[1] Males only.

[2] Females only.

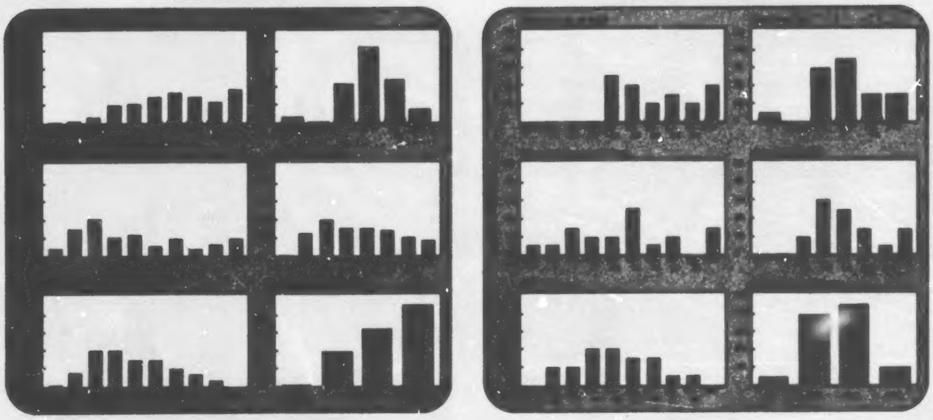
SOURCE: Industrial Research/Development Magazine, March 1979

CHART 4

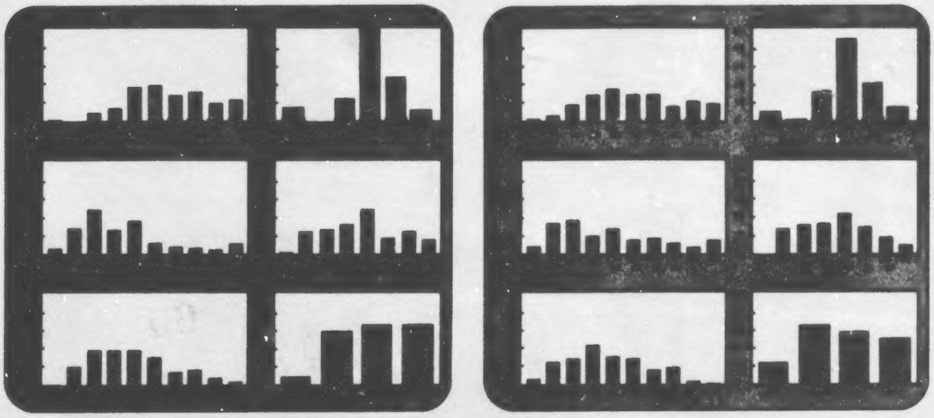
SALARIES OF ALL SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY PROFESSION - 1979


CHEMIST

BIOLOGIST


PHYSICIST

MATHEMATICIAN


METALLURGIST

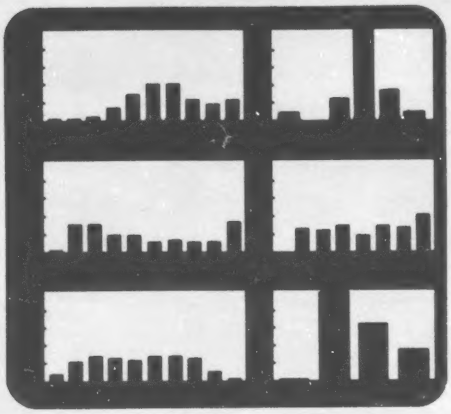
OTHER

SOURCE: Industrial Research/Development Magazine, March 1979

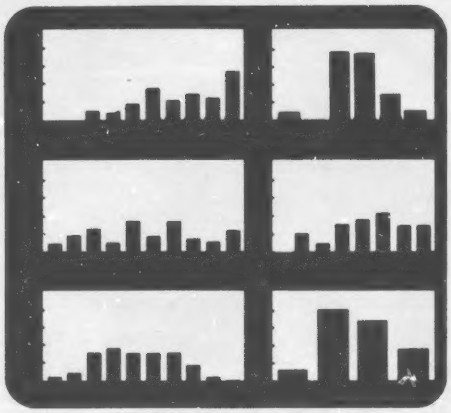
CHART 4

SALARIES OF ALL SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY PROFESSION - 1979

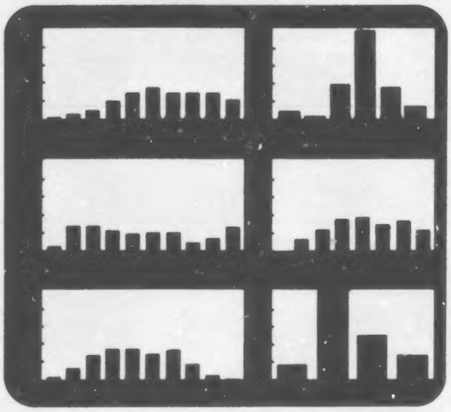
CHEMICAL ENGINEER



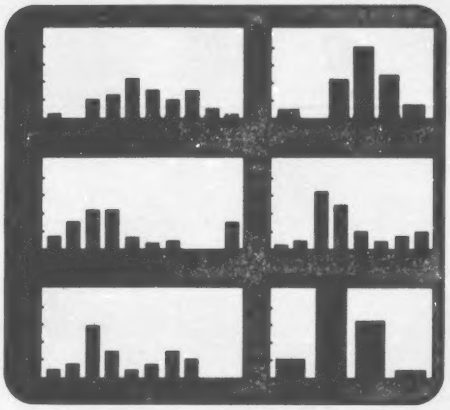
AERONAUTICAL ENGINEER



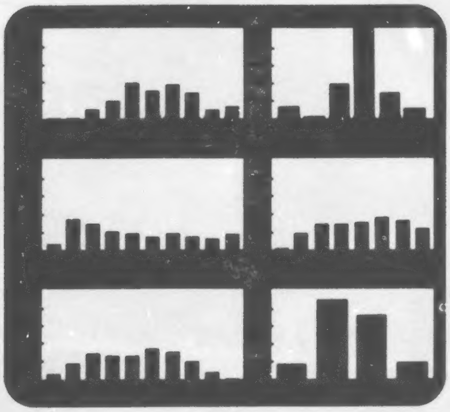
ELECTRICAL ENGINEER



INDUSTRIAL ENGINEER



MECHANICAL ENGINEER



SOURCE: Industrial Research/Development Magazine, March and April 1979

CHART 5

SALARIES OF ALL SCIENTISTS AND ENGINEERS AND OF CHEMISTS EMPLOYED IN RESEARCH AND DEVELOPMENT BY TYPE OF EMPLOYER AND SEX, 1979

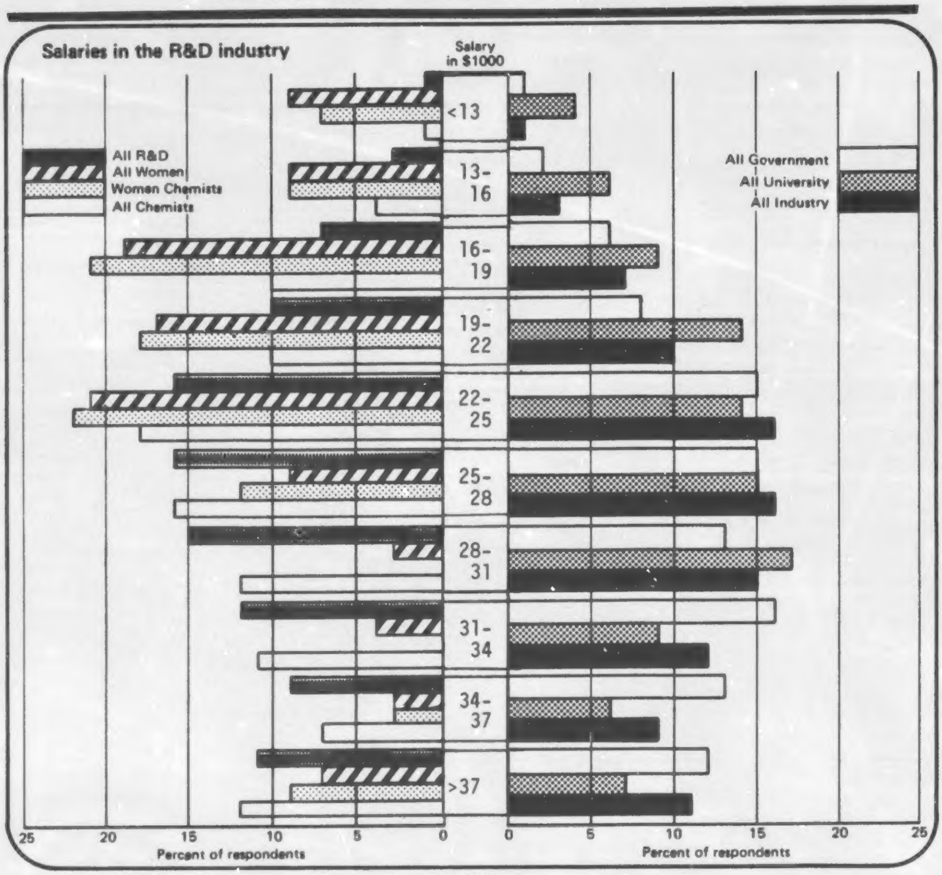
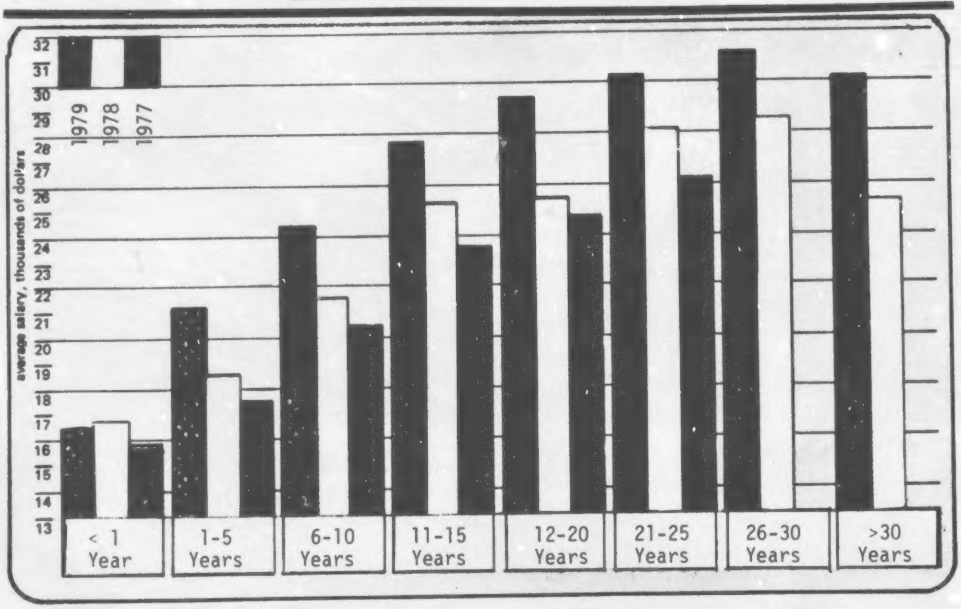


CHART 6

SALARIES OF SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY YEARS OF EXPERIENCE, 1977-79



SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, Press Release dated July 3, 1979

TABLE 50

NUMBER AND AVERAGE SALARIES FOR SELECTED PROFESSIONAL, ADMINISTRATIVE, TECHNICAL AND CLERICAL OCCUPATIONS IN PRIVATE INDUSTRY, MARCH 1979*

OCCUPATION AND CLASS	Number* of Employees	Average Salaries°	
		Monthly	Annual
Accountants II	18,202	$1,392	$16,706
Accountants III	31,749	1,622	19,468
Accountants IV	19,512	2,004	24,045
Chief Accountants II	1,052	2,467	29,604
Chief Accountants III	498	3,047	36,561
Chemists I	3,168	1,205	14,455
Chemists II	5,588	1,447	17,365
Chemists III	11,437	1,752	21,025
Chemists IV	10,858	2,122	25,459
Chemists V	8,419	2,569	30,828
Chemists VI	4,661	2,936	35,232
Chemists VII	1,391	3,501	42,016
Chemists VIII	330	4,080	48,961
Engineers I	21,203	1,445	17,345
Engineers II	39,636	1,586	19,026
Engineers III	94,991	1,828	21,931
Engineers IV	125,302	2,166	25,989
Engineers V	92,602	2,539	30,472
Engineers VI	39,388	2,900	34,801
Engineers VII	14,628	3,278	39,340
Engineers VIII	3,328	3,768	45,221
Engineering Technicians I	4,555	902	10,825
Engineering Technicians II	16,784	1,057	12,690
Engineering Technicians III	28,225	1,258	15,094
Engineering Technicians IV	32,545	1,469	17,624
Engineering Technicians V	18,745	1,685	20,222
Attorneys II	2,609	1,956	23,468
Attorneys III	3,440	2,470	29,644
Attorneys IV	2,750	3,151	37,807
Clerk, Accounting I	23,963	687	8,248
Clerk, Accounting II	83,137	796	9,555
Secretaries II	38,628	863	10,354
Secretaries III	79,328	948	11,375
Drafters I	3,211	784	9,407
Drafters II	10,008	893	10,715
Drafters III	21,766	1,070	12,835
Computer Operators II	7,370	906	10,875
Computer Operators III	26,299	1,001	12,013
Computer Operators IV	15,616	1,243	14,921

*Occupational Employment estimates relate to the total in all establishments within scope of the survey and not the number actually surveyed.

°Preliminary.

SOURCE: U.S. Department of Labor, National Survey of Professional, Administrative, Technical and Clerical Pay, March 1978.

TABLE 51

NUMBER AND AVERAGE SALARIES FOR SELECTED PROFESSIONAL, ADMINISTRATIVE, TECHNICAL AND CLERICAL OCCUPATIONS IN PRIVATE INDUSTRY, MARCH 1978

OCCUPATION AND CLASS	Number of Employees	Monthly Salaries		Annual Salaries	
		Mean	Median	Mean	Median
Accountants II	17,156	$1,306	$1,261	$15,671	$15,131
Accountants III	31,989	1,510	1,483	18,115	17,796
Accountants IV	20,287	1,836	1,812	22,036	21,742
Chief Accountants II	1,080	2,314	2,291	27,769	27,489
Chief Accountants III	560	2,847	2,792	34,160	33,500
Chemists I	2,455	1,124	1,135	13,492	13,615
Chemists II	4,135	1,361	1,341	16,337	16,094
Chemists III	8,638	1,621	1,603	19,453	19,240
Chemists IV	9,887	1,961	1,942	23,532	23,304
Chemists V	7,583	2,375	2,357	28,494	28,289
Chemists VI	3,529	2,759	2,715	33,110	32,580
Chemists VII	1,223	3,244	3,099	38,927	37,185
Chemists VIII	400	3,930	3,859	47,156	46,313
Engineers I	16,663	1,327	1,316	15,928	15,794
Engineers II	32,043	1,464	1,450	17,567	17,400
Engineers III	81,495	1,683	1,665	20,194	19,980
Engineers IV	113,509	1,998	1,983	23,972	23,790
Engineers V	81,520	2,333	2,315	28,001	27,780
Engineers VI	39,254	2,689	2,657	32,264	31,887
Engineers VII	13,672	3,043	3,005	36,520	36,056
Engineers VIII	3,685	3,509	3,450	42,104	41,400
Engineering Technicians I	4,474	872	834	10,461	10,011
Engineering Technicians II	14,084	993	965	11,918	11,575
Engineering Technicians III	24,915	1,172	1,164	14,062	13,974
Engineering Technicians IV	29,217	1,359	1,350	16,302	16,200
Engineering Technicians V	18,088	1,559	1,549	18,703	18,593
Attorneys II	2,548	1,809	1,777	21,713	21,325
Attorneys III	2,883	2,311	2,291	27,738	27,489
Attorneys IV	2,724	2,796	2,741	33,547	32,887
Clerk, Accounting I	90,511	724	685	8,682	8,220
Clerk, Accounting II	74,055	916	875	10,986	10,500
Secretaries II	74,557	893	869	10,721	10,428
Secretaries III	84,253	991	967	11,894	11,604
Drafters I	17,570	937	900	11,247	10,800
Drafters II	27,038	1,142	1,111	13,709	13,327
Drafters III	27,591	1,408	1,373	16,902	16,476
Computer Operators II	7,111	863	835	10,352	10,016
Computer Operators III	24,725	939	912	11,274	10,949
Computer Operators IV	15,413	1,145	1,116	13,737	13,390

SOURCE: Chemical and Engineering News, Vol. 55, June 21, 1976, pp. 47, 50; Vol. 56, June 20, 1977, p. 31; Vol. 57, June 25, 1979, p. 39.

TABLE 52

MEDIAN ANNUAL SALARIES FOR CHEMISTS AND CHEMICAL ENGINEERS OF ALL EXPERIENCE LEVELS BY DEGREE, 1973-1979 (WEIGHTED AVERAGE)

YEAR	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
1973	$16,800	$17,500	$20,500	$20,200	$22,000	$23,100
1974	17,500	18,400	21,700	21,300	22,400	24,800
1975	19,000	19,800	23,000	24,000	25,000	26,000
1976	19,800	20,500	24,700	26,000	27,000	29,000
1977	21,000	22,000	26,000	28,000	30,000	30,000
1978	22,000	24,000	27,400	30,000	32,000	32,000
1979	23,500	25,000	29,000	31,700	31,500	35,000

SOURCE: Chemical and Engineering News, Vol. 57, June 25, 1979, p. 45

TABLE 53

MEDIAN ANNUAL SALARIES OF CHEMISTS BY WORK FUNCTION, DEGREE LEVEL AND SEX, 1979

DEGREE LEVEL & SEX	WORK FUNCTION						
	General Management	Research Management	Basic Research	Applied Research	Professor	Associate Professor	Production and Quality Control
BACHELOR'S							
Men	$30,000	$33,000	$18,000	$23,000	*	*	$22,000
Women	*	*	15,500	17,500	*	*	16,600
Total	$30,000	$32,900	17,200	22,000	*	*	20,700
MASTER'S							
Men	33,500	33,000	22,500	25,700	*	*	24,000
Women	*	*	18,000	19,300	*	*	*
Total	32,400	33,000	21,500	25,000	*	*	24,000
PH.D.							
Men	40,000	40,000	29,000	30,000	27,200	21,000	28,500
Women	*	*	24,000	25,600	23,900	19,600	*
Total	39,600	40,000	29,000	29,400	27,000	20,800	28,000

*Insufficient Data

SOURCE: American Chemical Society, 1979 Survey of ACS Membership Status, June 1979, Not published.

TABLE 54

MEDIAN ANNUAL SALARIES OF CHEMISTS BY TYPE OF EMPLOYER, DEGREE LEVEL AND SEX, 1979

Type of Employer	DEGREE LEVEL AND SEX								
	Bachelor's			Master's			Ph.D.'s		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Industry									
Manufacturing	$25,700	$18,000	$24,700	$28,000	$21,200	$27,000	$33,100	$26,400	$33,000
Non-Manufacturing	23,000	16,400	22,000	25,000	20,300	23,200	31,300	20,200	31,000
Education									
Public University	18,100	11,500	15,300	18,000	15,000	17,600	25,000	18,100	24,500
Private Univeristy	11,100	10,700	11,000	16,300	17,600	17,000	23,500	17,400	23,000
High School, Other Schools	13,000	8,800	12,000	16,500	14,600	16,900	19,000	16,000	19,000
Government									
Federal	28,000	24,000	26,000	28,000	19,300	27,000	33,000	28,000	32,000
State/Local	19,400	13,500	18,600	20,000	16,000	19,500	25,000	17,500	24,800
Self Employment	30,000	*	30,000	36,000	*	36,000	36,000	*	36,000
Hospital/ Ind. Lab.	17,000	14,700	17,000	22,400	12,000	22,000	29,000	19,000	29,000
Nonprofit Research Inst.	20,000	14,400	18,500	25,000	17,000	22,900	27,600	21,000	27,600
Other	23,000	15,000	21,000	25,000	18,000	23,600	31,000	19,500	30,000

* No women reported.

[54] SOURCE: *Chemical and Engineering News*, Vol. 57, June 25, 1979.

TABLE 55

MEDIAN ANNUAL SALARIES OF CHEMISTS BY DEGREE LEVEL, SPECIALTY, AND SEX, 1979

DEGREE & SEX	SPECIALTY						
	Analytical	Inorganic	Organic	Physical	Polymer	Bio-Chemistry	Pharma-ceutical
BACHELOR'S							
Men	$23,000	$25,000	$28,500	$25,000	$27,000	$21,000	$22,000
Women	17,700	19,000	17,600	*	17,500	13,600	15,000
Total	21,800	24,300	26,300	25,000	26,000	17,000	20,300
MASTER'S							
Men	25,000	24,000	28,200	26,000	29,000	22,000	25,700
Women	19,800	*	20,000	*	22,000	18,000	20,000
Total	24,000	23,500	27,000	25,000	28,000	21,500	23,800
PH.D.							
Men	27,600	24,000	28,000	28,000	33,000	29,000	32,500
Women	22,000	20,000	23,200	20,000	26,800	20,500	24,000
Total	27,000	24,000	27,700	27,300	33,000	27,500	32,000

* Sample too small for meaningful data.

TABLE 56

MEDIAN SALARIES AND PERCENTAGE DISTRIBUTION OF CHEMISTS BY GEOGRAPHICAL REGION AND DEGREE LEVEL, 1979

GEOGRAPHICAL REGION	B. S.		M. S.		Ph.D.	
	Salary	% Working in Region	Salary	% Working in Region	Salary	% Working in Region
Pacific	$22,500	12.7	$24,200	11.7	$29,000	10.5
Mountain	23,000	3.8	25,000	3.1	26,300	3.5
West North Central	19,900	5.4	24,000	4.7	25,000	6.2
East North Central	23,000	21.9	25,000	21.9	28,700	20.3
West South Central	24,400	9.4	25,000	8.6	28,000	8.0
East South Central	21,700	3.6	24,000	3.8	26,000	3.5
Middle Atlantic	25,000	24.4	25,000	25.6	31,000	23.6
South Atlantic	24,000	13.7	27,500	13.1	30,000	17.3
New England	24,000	5.2	23,500	7.7	27,300	7.0

SOURCE: American Chemical Society, Salaries 1979 - Analysis of the American Chemical Society's 1979 Survey of Salaries and Employment, July 1979

TABLE 57

1979 MEDIAN SALARY OF INDUSTRIAL CHEMISTS AND ALL CHEMISTS BY DEGREE LEVEL AND YEARS OF EXPERIENCE

YEARS	B. S.		M. S.		PH. D.	
	All	Industrial	All	Industrial	All	Industrial
1	$14,200	$15,000	$19,200	$19,200	$22,500	$24,000
2-4	15,600	16,000	17,200	18,000	22,800	24,100
5-9	18,000	18,500	20,000	21,000	24,700	27,500
10-14	22,000	22,000	23,400	25,000	28,000	32,400
15-19	26,000	26,000	26,000	28,500	31,500	35,500
20-24	28,200	29,600	28,000	29,000	33,000	38,000
25-29	30,000	30,000	31,000	32,000	37,000	41,000
30-34	30,000	30,000	31,600	34,300	38,000	42,000
35-39	34,500	35,000	31,000	31,000	38,000	40,600
40+	33,000	32,000	35,000	36,000	39,900	41,500
Overall	23,500	24,300	25,000	26,500	29,000	33,000

TABLE 58

1979 MEDIAN SALARY AND 1978 INCOME OF CHEMISTS BY DEGREE LEVEL AND YEARS OF EXPERIENCE

YEARS OF EXPERIENCE	1979 SALARY			1978 INCOME		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
1 or less	$14,200	$19,200	$22,500	$11,200	$13,000	$19,500
2-4	15,600	17,200	22,800	14,700	16,800	21,100
5-9	18,000	20,000	24,700	17,500	19,500	24,000
10-14	22,000	23,400	28,000	22,000	23,000	28,000
15-19	26,000	26,000	31,500	25,300	26,000	31,500
20-24	28,200	28,000	33,000	29,000	28,500	34,000
25-29	30,000	31,000	37,000	30,000	30,900	38,000
30-34	30,000	31,600	38,000	30,000	32,000	38,500
35-39	34,500	31,000	38,000	34,500	31,000	38,500
40+	33,000	35,000	39,900	35,000	35,000	40,000
Overall	23,500	25,000	29,000	23,500	25,000	29,000

SOURCE: American Chemical Society, Salaries 1979 - Analysis of the American Chemical Society's 1979 Survey of Salaries and Employment, July 1979

TABLE 59

MEDIAN SALARIES OF CHEMISTS BY DEGREE LEVEL, SEX AND YEARS OF EXPERIENCE, 1979

YEARS OF EXPERIENCE	B. S.		M. S.		PH. D.	
	Men	Women	Men	Women	Men	Women
1 or less	$14,000	$15,000	$19,300	$16,800	$22,200	$23,000
2-4	15,500	16,000	18,000	16,800	23,000	20,000
5-9	18,300	16,500	20,000	18,000	25,000	20,000
10-14	23,000	18,300	24,000	20,000	28,500	21,000
15-19	26,100	24,400	26,500	24,000	32,000	23,500
20-24	29,000	21,700	29,000	21,500	33,800	23,000
25-29	30,000	25,000	31,800	25,000	37,000	23,000
30-34	30,000	26,500	31,600	28,000	38,000	27,000
35-39	35,000	24,000	31,000	21,900	39,000	25,000
40+	33,000	*	36,000	*	39,900	*
All levels	25,000	17,500	26,000	19,500	30,000	22,000

* Sample too small for meaningful data.

TABLE 60

MEDIAN SALARIES OF CHEMISTS IN INDUSTRY BY DEGREE LEVEL, SEX AND YEARS OF EXPERIENCE, 1979

YEARS OF EXPERIENCE	B.S.		M.S.		PH.D.	
	Men	Women	Men	Women	Men	Women
1 or less	$15,000	$15,500	$19,300	$16,800	$23,900	$23,200
2-4	15,700	16,600	18,500	17,500	24,200	23,800
5-9	18,800	17,300	21,100	20,100	27,700	26,000
10-14	23,000	18,100	25,500	21,200	32,500	26,500
15-19	26,100	24,500	28,500	27,500	35,500	37,200
20-24	30,000	23,500	29,600	17,500	38,000	31,600
25-29	30,000	22,000	32,000	26,400	41,000	45,000
30-34	30,000	26,500	[illegible]4,500	---	42,000	*
35-39	35,000	24,000	31,500	21,900	40,600	35,000
40+	32,000	---	38,000	---	41,500	---
All levels	25,000	17,500	27,500	20,200	33,000	26,400

* Sample too small for meaningful data.

Dashes indicate no data available.

SOURCE: American Institute of Chemists, The Chemist, November 1978

TABLE 61

MEDIAN ANNUAL SALARY OF MEMBERS OF THE AIC* BY TYPE OF EMPLOYER AND DEGREE, 1978

TYPE OF EMPLOYER	DEGREE LEVEL		
	Bachelor's	Master's	Doctor's
Industry	$28,000	$31,200	$37,200
Education	11,400	20,200	26,600
Non-Profit	**	27,900	34,500
Government	23,700	30,400	34,900
Self-Employed	36,000	**	25,000
Other	19,800	29,900	30,500
Total Salary	26,500	29,500	32,600
Total Income	27,500	30,400	34,600

*American Institute of Chemists ** Insufficient Data

SOURCE: Hitchcock Publishing Company, Infosystems, June 1979

TABLE 62

AVERAGE NATIONAL WEEKLY SALARIES IN DATA PROCESSING BY JOB DESCRIPTION, 1978 & 1979

JOB DESCRIPTION	1979 Average Salary	1978 Average Salary	% Increase (Decrease)
Top Management Official	$692	$641	8.0
Data Base Systems Manager	513	*	---
Manager of Data Processing	503	472	6.6
Asst. Manager of Data Processing	491	431	13.9
Project/Team Leader	474	443	7.0
Mgr/Supvr. of Computer Systems Analysis and Programming	505	446	13.2
Lead Computer Systems Analyst & Programmer	440	398	10.6
Senior Computer Systems Analyst & Programmer	406	359	13.1
Junior Computer Systems Analyst & Programmer	319	288	10.8
Mgr/Supvr. of Computer Systems Analysis	486	482	0.8
Lead Computer Systems Analyst	438	428	2.4
Senior Computer Systems Analyst	414	386	7.3
Junior Computer Systems Analyst	340	329	3.3
Mgr/Supvr. of Systems Programming	501	*	---
Lead Systems Programmer	410	*	---
Senior Systems Programmer	391	*	---
Junior Systems Programmer	303	*	---
Systems Programmer Trainee	247	*	---
Mgr./Supvr. of Applications Programming	494	*	---
Lead Applications Programmer	411	*	---
Senior Applications Programmer	371	*	---
Junior Applications Programmer	303	*	---
Applications Programmer Trainee	253	*	---
Data Communications Manager	496	416	19.2
Data Communications Operator	313	219	42.9
Mgr./Supvr. of Computer Operations	374	345	8.4
Lead Computer Operator	282	259	8.9
Senior Computer Operator	257	233	10.3
Junior Computer Operator	219	196	11.7
Computer I/O Control Manager	255	241	6.2
Tape Librarian	215	189	13.8
Key Entry Supervisor	245	223	9.9
Lead Key Entry Operator	216	198	9.1
Senior Key Entry Operator	199	174	14.4
Junior Key Entry Operator	170	156	9.0

* Not included in 1978 survey.

SOURCE: Hitchcock Publishing Company, Infosystems, June 1979.

TABLE 63

AVERAGE WEEKLY SALARIES OF DATA PROCESSING PERSONNEL BY JOB DESCRIPTION AND GEOGRAPHIC AREA, 1979

JOB DESCRIPTION	GEOGRAPHIC AREA								
	New England	Middle Atlantic	South Atlantic	East North Central	East North Central	West South Central	West South Central	Mountain	Pacific
Top Management Official	$724	$632	$723	$687	$762	$730	$679	$701	$760
Data Base Systems Manager	472	541	505	498	449	506	495	556	514
Manager of Data Processing	487	525	501	486	456	490	480	566	524
Asst. Mgr. of Data Processing	479	467	553	456	*	499	414	512	478
Project/Team Leader	466	477	465	490	399	456	409	453	519
Mgr./Supvr. of Computer System Analysis & Programming	495	515	560	462	433	491	457	524	525
Lead Computer Systems Analyst and Programmer	400	459	427	403	369	414	431	486	475
Senior Computer System Analyst and Programmer	395	403	392	384	401	400	365	411	448
Junior Computer Systems Analyst and Programmer	345	305	282	321	279	320	302	321	359
Mgr./Supvr. of Computer Systems Analysis	484	511	589	460	488	488	*	534	455
Lead Computer Systems Analyst	397	440	484	484	345	414	*	410	423
Senior Computer Systems Analyst	393	431	416	422	339	424	427	355	450
Junior Computer Systems Analyst	371	350	336	354	237	277	345	394	298
Mgr./Supvr. of Systems Programming	484	518	531	501	480	482	495	484	514
Lead Systems Programmer	405	417	440	428	279	396	426	373	488
Senior Systems Programmer	369	363	394	432	277	338	370	388	443
Junior Systems Programmer	288	283	312	325	218	257	281	298	390
Programmer Trainee	210	215	220	273	178	226	227	249	280
Mgr./Supvr. of Applications Programming	439	462	468	556	398	436	*	*	508
Lead Applications Programmer	342	401	374	495	358	357	370	373	401
Senior Applications Programmer	311	356	333	413	294	335	305	383	370
Junior Applications Programmer	272	286	267	335	249	260	283	287	333
Applications Programmer Trainee	237	242	220	272	198	214	256	244	267
Data Communications Mgr.	311	506	551	516	*	483	527	386	521
Data Communications Operator	188	249	356	425	*	207	344	169	243
Mgr. Supvr. of Computer Operations	364	374	378	382	364	338	362	406	377
Lead Computer Operator	264	291	272	282	236	242	262	322	308
Senior Computer Operator	222	259	250	271	198	239	221	271	270
Junior Computer Operator	192	211	204	237	151	181	206	259	219
Computer I/O Control Mgr.	257	242	266	239	226	248	249	303	300
Tape Librarian	185	206	235	231	184	164	179	224	220
Key Entry Supervisor	213	244	257	250	213	219	220	256	271
Lead Key Entry Operator	207	206	200	231	168	198	203	200	237
Senior Key Entry Operator	174	185	197	220	161	181	184	180	217
Junior Key Entry Operator	162	164	159	195	142	154	158	160	180

* Insufficent information.

SOURCE: U.S. Department of Labor, Industry Wage Survey: Computer and Data Processing Services, March 1978, Bulletin 2028, 1979.

TABLE 64

NUMBER AND SALARIES OF SELECTED COMPUTER AND DATA PROCESSING PERSONNEL BY GEOGRAPHIC AREA AND SEX, MARCH 1978

GEOGRAPHIC AREA	COMPUTER SYSTEMS ANALYSTS, BUSINESS				COMPUTER PROGRAMMERS, BUSINESS				COMPUTER OPERATORS			
	Number		Median Salary		Number		Median Salary		Number		Median Salary	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
NORTHEAST												
Boston	252	50	$384.00	$326.50	154	66	$269.50	$260.00	215	29	$205.00	$170.00
Nassau-Suffolk	---	---	---	---	---	---	---	---	170	---	180.00	---
Newark	86	12	410.50	---	116	42	312.00	254.00	82	---	215.50	---
New York	201	---	422.50	---	217	64	322.00	288.00	370	---	209.50	---
Philadelphia	191	45	405.00	324.50	83	16	287.50	276.00	166	36	199.50	190.00
SOUTH												
Atlanta	108	29	369.50	315.00	40	12	259.00	---	48	8	195.50	---
Dallas-Fort Worth	680	105	368.00	368.50	146	---	306.50	---	441	35	207.00	172.50
Houston	117	16	404.00	344.50	154	19	279.00	322.00	279	99	225.50	227.50
Washington	765	139	422.50	274.50	520	193	281.50	269.00	366	106	187.50	182.00
NORTH CENTRAL												
Chicago	64	---	461.50	---	67	---	345.00	---	125	---	207.50	---
Cleveland	58	---	385.50	---	95	9	326.00	---	87	7	195.00	---
Detroit	---	---	---	---	---	---	---	---	44	24	224.50	217.00
Kansas City	93	17	345.50	322.00	---	---	---	---	56	24	184.00	170.00
Minneapolis/St. Paul	201	78	374.50	304.50	---	---	---	---	89	---	200.00	---
St. Louis	61	---	356.50	---	14	---	---	---	29	16	200.00	184.00
WEST												
Los Angeles/Long Beach	---	---	---	---	186	---	280.00	---	243	---	207.00	---
San Francisco/Oakland	98	---	412.50	---	104	17	345.00	246.00	109	---	195.50	---
San Jose	122	37	386.00	441.50	68	28	287.50	300.50	72	---	220.00	---

SOURCE: U.S. Department of HEW, Public Health Service, Position Classification and Pay in State and Territorial Public Health Laboratories, 1978.

TABLE 65

AVERAGE ANNUAL SALARIES FOR SELECTED POSITIONS IN STATE AND TERRITORIAL PUBLIC HEALTH LABORATORIES BY STATE, 1977

STATE	POSITION					
	Laboratory Aide I	Laboratory Technician I	Micro-biologist I	Chemist	Asst. Lab. Director	Lab. Director
Alabama	$7,839	$9,419	$13,091	*	$24,622	$28,951
Alaska	12,426	14,904	20,730	*	*	46,500
Arizona	7,667	10,741	14,088	$14,088	*	30,773
Arkansas	6,357	8,333	10,712	*	18,447	24,037
California	9,108	11,856	11,610	13,002	27,936	35,214
Colorado	7,824	10,722	13,686	13,686	*	31,338
Connecticut	7,461	8,166	9,858	9,858	24,609	28,866
Delaware	7,249	8,108	12,368	12,368	*	29,299
D. C.	8,897	12,997	12,997	15,047	32,999	41,598
Florida	6,713	8,968	11,714	12,393	20,108	24,377
Georgia	7,773	9,015	13,518	13,518	25,038	27,384
Hawaii	8,658	10,332	*	*	*	26,040
Idaho	7,884	8,694	11,646	11,646	23,064	26,700
Illinois	7,764	8,874	12,414	12,414	*	31,140
Indiana	8,190	9,373	13,338	13,338	28,977	42,640
Iowa	6,825	9,295	12,225	12,225	27,475	32,188
Kansas	*	7,344	12,594	12,594	23,964	27,414
Kentucky	6,348	7,212	12,336	12,336	*	35,548
Louisiana	7,452	8,916	13,236	12,432	17,898	28,092
Maine	7,280	8,746	11,524	12,054	18,700	21,081
Maryland	*	8,548	11,871	11,871	26,969	41,159
Massachusetts	*	10,120	13,174	13,174	28,468	30,750
Michigan	9,104	11,421	13,301	13,301	34,911	37,615
Minnesota	9,177	9,981	14,147	14,147	*	32,427
Mississippi	6,690	7,140	13,170	*	21,420	23,610
Missouri	6,990	9,846	12,072	12,072	20,598	25,890
Montana	8,743	11,259	13,372	13,372	*	23,858
Nebraska	6,816	7,980	11,136	11,136	18,876	22,590
Nevada	8,907	11,074	13,223	13,223	19,949	30,462
New Hampshire	6,474	8,826	10,105	*	*	18,735
New Jersey	6,744	9,963	11,094	11,094	*	30,611
New Mexico	6,714	*	*	*	21,650	23,900
New York	5,870	8,775	11,614	11,614	*	50,600
North Carolina	6,648	9,384	13,380	12,240	18,504	27,054
North Dakota	6,714	8,568	13,296	13,296	21,648	26,310
Ohio	7,260	8,851	11,607	11,607	19,407	21,393
Oklahoma	7,530	8,460	13,320	12,750	24,450	27,690
Oregon	8,016	10,434	13,248	*	20,544	27,570
Pennsylvania	8,714	10,387	14,416	14,416	24,470	28,039
Rhode Island	8,752	10,566	13,176	*	*	30,652
South Carolina	6,372	7,076	12,004	12,004	20,272	38,068
South Dakota	6,661	9,040	11,768	11,768	*	20,016
Tennessee	6,594	7,986	11,994	11,994	19,140	23,034
Texas	7,008	9,750	13,554	13,554	*	29,585
Utah	7,602	9,342	14,556	14,556	27,672	30,966
Vermont	7,817	10,050	13,074	13,074	18,698	28,609
Virginia	6,096	7,944	12,120	11,364	20,275	25,850
Washington	7,914	11,136	12,894	14,532	*	29,550
West Virginia	6,684	*	11,448	11,448	16,914	20,556
Wisconsin	9,965	9,724	12,930	12,930	26,525	38,400
Wyoming	*	10,704	*	*	*	25,788
Guam	8,138	*	*	*	*	16,675
Puerto Rico	3,480	4,020	6,600	6,600	17,100	18,300
Virgin Islands	5,221	6,800	9,385	*	*	21,569

* No Position Reported.

SOURCE: U.S. Department of HEW, Public Health Service, Position Classification and Pay in State and Territorial Public Health Laboratories, 1978.

TABLE 66

AVERAGE ANNUAL SALARIES OF SELECTED POSITIONS IN STATE AND TERRITORIAL PUBLIC HEALTH LABORATORIES, 1974 and 1977

Position Classification	Average Annual Salaries		Percent Increase
	1974	1977	1974-1977
Lab Aide I	$5,853	$7,549	29.0
Lab Aide II	6,610	8,447	27.8
Lab Technician I	7,307	9,408	28.8
Lab Technician II	8,618	10,829	25.7
Microbiologist I	10,124	12,599	24.4
Microbiologist II	11,624	14,400	23.9
Microbiologist III	13,573	16,805	23.8
Microbiologist IV	16,321	19,418	19.0
Microbiologist V	18,160	21,189	16.7
Chemist I	10,522	12,527	19.1
Chemist II	12,009	14,833	23.5
Chemist III	13,828	16,713	20.9
Chemist IV	16,746	19,384	15.8
Chemist V	19,659	22,025	12.0
Asst. Lab Director	19,522	22,817	16.9
Lab Director	23,505	28,519	21.3

SALARIES OF ENGINEERS

- The 1978 13th biennial survey by the *Engineering Manpower Commission* of *PROFESSIONAL INCOME OF ENGINEERS* included data from 1,035 establishments covering 179,641 engineering graduates employed in industry, government and education. From 1976 to 1978, the median salary of experienced engineers increased 18%. However, over the same period, the average rate of inflation was 15.4%, leaving a net gain of less than 3% in purchasing power over the two-year period (Chart 7).

Engineers employed by electric and gas utilities and the federal government experienced the greatest upward movement in median rate increase, (Tables 67, 68 and 70). Those engineers working in the federal government had the highest median salary in 1978 ($29,800), followed by those working in the petroleum industry ($29,500) (Table 70).

Increases in engineering salaries were not uniform throughout the United States. Median increases ranged from 12% in the west north central region to 33% in the South Atlantic region, which was far behind the other regions in 1976. Engineers working in the Pacific region had the highest median salaries in 1978 - $27,050 - and those working in west north central the lowest - $24,050 (Tables 69 and 73).

Engineers in supervisory positions enjoy higher earnings than non-supervisors. The smallest salary differential occurs in the chemical employment group, followed closely by the federal government. The greatest spread is found in construction, petroleum, R & D, consulting, utilities and the electronic industries where the spread ratio is more than 40% in each case (Table 71).

As predicted, those engineers with higher degrees earn higher salaries. However, from 1976 to 1978, bachelor's engineers experienced a growth in salaries of 18.5%, while master's increased 18.1%, and Ph.D. engineering salaries rose only 15.5% (Table 72).

- The 1977 13th biennial survey by the *National Society of Professional Engineers* of its membership - *PROFESSIONAL ENGINEERS' INCOME AND SALARY SURVEY* - shows a 13% increase in salary to $26,780 per year. However, this increase represented only a 0.4% rise in CPI adjusted dollars.

As in previous surveys, over 75% of NSPE engineers worked in either civil, mechanical or electrical engineering. However, those engineers working in the heterogeneous "other" category, which includes many engineers in executive-administrative positions, in chemical and in aeronautical/aerospace engineering earned the most - $30,930, $29,340 and $28,220 respectively (Tables 74 and 76).

The type of work performed by engineers exerts considerable influence on earnings. Those engineers in executive-administrative positions had the highest earnings - $31,860 - followed by those in sales and consulting work. Design, production and maintenance are activities with the lowest earnings (Tables 75 and 79).

Tables 77 and 80 show a steady earning progress with higher levels of education which is even more pronounced when years of experience are taken into account.

As in the past, median income was highest for those engineers working in construction-contractor firms and lowest for those in state government positions - $29,500 and $23,500 respectively (Tables 78 and 81) The high median income for those working for consulting firms and especially construction contractors reflects the high proportion of owners and principals in these fields. Table 82 presents median income by field of employment and years of experience.

By geographic region, engineers working in the New England and Middle

Atlantic states reported the highest median incomes ($28,350), while those working in the Plains states reported the lowest ($24,730) (Table 83).

The earnings of self-employed engineers ($37,750) well out-pace those of salaried engineers ($25,820). Table 84 presents income by employment status and year of entry into engineering.

- Average compensation for industrial engineers in 1978 was $27,958, according to a survey conducted by *Abbott, Langer and Associates* for the *American Institute of Industrial Engineers*. This figure represents an increase of about 15.6% from December 31, 1976. During this two-year period, the cost-of-living index rose approximately 16.4%.

Median total income varied considerably from one type of employer to another. Those industrial engineers working in consulting organizations reported the highest median incomes - $32,000 - while those working in insurance companies earned the least - $20,700. The median incomes for all other types of employers ranged from $22,471 to $28,385 (Table 85).

Median income of industrial engineers ranged from $23,442 in the Plains states to $28,159 in San Francisco and vicinity (Table 86).

Compensation of industrial engineers increased regularly by length of experience, with a median income of $17,425 for those with just under two years of experience and $32,000 for those with 30 years of experience and over - a "spread" of about 83.6% (Table 87).

As expected, the income of industrial engineers varies according to degree level. Those engineers with less than a bachelor's degree had a median income of $22,285, while those with a doctorate had a median income of $31,000 (Table 88).

- *Abbott, Langer and Associates* in *COMPENSATION IN MANUFACTURING, (ENGINEERS AND MANAGERS)*, a 1978 salary survey prepared for the *Society of Manufacturing Engineers*, reports an average total compensation of $22,496 for engineers in manufacturing (up 17.8% from 1976) and $33,304 for managers in manufacturing (up 22.4% from 1976). Those engineers working in manufacturing with no college degree reported a median income of $20,520, compared to a median income of $22,000 for those with a bachelor's in engineering (Table 89).

Length of experience played a significant part in determining the income of engineers. Their median income rose regularly from $17,000 for those with under five years of experience to $24,152 for 30 or more years of experience (Table 90).

Income varied greatly by geographic areas - as much as 26.6% for engineers. Median income was highest in Michigan ($24,536), followed by New York/New Jersey ($22,300), while the engineers working in the southeastern states earned the least ($19,850) (Table 91).

Job function is a major determinant of income. Technical sales engineers reported the highest median income - $24,797, followed closely by R & D engineers at $24,500. Those engineers working in industrial engineering reported the lowest annual compensation of $19,000 (Table 92).

Transportation equipment manufacturers paid engineers best ($22,647), with the next highest median incomes found in electrical/electronic manufacturing ($21,500) and non-manufacturing ($21,150) (Table 93).

Level of education had a great effect upon the income of managers employed in manufacturing. The lowest median income of managers by level of education was $26,026 for those with two-year engineering technician degrees, and the highest income to those with a graduate degree - $30,747 (Table 94).

- The average annual income of IEEE engineers as reported by *Abbott, Langer and Associates* in *IEEE 1979 U.S. MEMBERSHIP SALARY AND FRINGE BENEFIT SURVEY* was $31,680 during the 12-month period from January 1, 1978 through December 31, 1978. This represents an increase of about 15.2% from two years ago and compares to an increase in the Consumer Price Index of approximately 11.6% since the last survey.

Geographic area appears to be related to income of electrical engineers. Those working in Philadelphia and vicinity have the highest mean income ($37,205), followed by those in New York City and vicinity ($36,547). The western states (excluding Los Angeles/San Diego, San Francisco/Oakland and vicinities) provides the lowest mean income ($28,605) (Table 95)

The mean annual income of electrical engineers with a bachelor's degree in science or engineering is $30,530, while those with doctorates command an income of $36,768, (Table 96).

IEEE electrical engineers employed full-time in their areas of primary technical competence have a mean income of $30,257. Total annual income by area of primary technical competence is shown in Table 97.

Mean annual income varies considerably on the basis of organization job function. The highest incomes go to those in general and corporate management ($46,134), followed by marketing ($35,349), while on the other end of the scale are those working in engineering support where the average annual income is $22,624 (Table 98).

Total annual income shows a consistent increase with increased engineering experience. Average income increased from $19,832 with under two years of experience to $41,866 with 30 years of experience or more (Table 99).

Total average income of IEEE engineers employed full-time in the area of primary technical competence by industry or service of employer is shown in Table 100.

SOURCE: Engineering Manpower Commission of Engineers Joint Council, Professional Income of Engineers, 1978

TABLE 67

NUMBER AND MEDIAN ANNUAL SALARIES OF ENGINEERS BY TYPE OF INDUSTRY AND SELECTED YEARS SINCE BACCALAUREATE, 1978

TYPE OF INDUSTRY	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	35+
Aerospace	(163) $15,750	(272) $16,700	(237) $20,500	(179) $22,300	(898) $24,800	(1,252) $28,700	(1,193) $30,000	(917) $31,000	(1,381) $32,050	(557) $32,450
Chemicals	(560) 17,500	(632) 18,350	(625) 21,900	(593) 23,650	(1,627) 26,150	(1,574) 30,100	(1,270) 31,500	(1,068) 32,550	(2,010) 33,700	(1,341) 34,250
Construction	(328) 16,300	(327) 17,250	(633) 20,900	(567) 22,600	(1,507) 24,900	(1,054) 28,300	(802) 29,400	(683) 30,250	(902) 31,150	(659) 31,550
Electrical Equipment	(604) 15,400	(685) 16,400	(830) 20,550	(803) 22,750	(2,985) 25,850	(2,436) 30,850	(2,199) 32,500	(1,650) 33,550	(3,113) 34,400	(1,804) 34,350
Electronic Equipment	(732) 16,400	(554) 17,500	(648) 21,850	(777) 23,850	(2,190) 26,400	(2,192) 29,650	(1,955) 30,500	(1,604) 30,950	(1,453) 31,300	(722) 31,350
Instruments	(70) 15,900	(99) 16,900	(95) 20,950	(88) 22,750	(258) 24,950	(190) 27,350	(147) 27,750	(93) 27,800	(128) 27,450	(65) 27,000
Machinery	(193) 16,700	(154) 17,400	(125) 20,250	(146) 21,700	(396) 23,800	(324) 27,350	(281) 28,550	(250) 29,300	(325) 29,500	(254) 27,600
Mechanical	(429) 16,000	(419) 16,800	(426) 19,950	(448) 21,500	(1,189) 23,700	(837) 26,950	(761) 27,900	(604) 28,400	(837) 28,500	(547) 27,550
Metals, Basic	(22) 18,150	(31) 18,950	(35) 22,150	(48) 23,700	(97) 25,950	(135) 29,500	(118) 30,750	(112) 31,600	(81) 32,400	(82) 32,500
Metal Products Fabricated	(336) 15,550	(359) 16,300	(440) 19,350	(449) 20,850	(1,085) 22,950	(714) 26,100	(728) 27,000	(558) 27,550	(843) 27,800	(439) 27,250
Mining	(7) 18,200	(7) 18,800	(11) 21,200	(11) 22,400	(11) 24,050	(15) 26,950	(5) 28,150	(10) 29,150	(23) 30,650	(22) 31,750
Paper & Wood	(45) 16,500	(34) 17,300	(38) 20,600	(43) 22,250	(112) 24,550	(121) 28,350	(117) 29,700	(81) 30,700	(128) 31,800	(120) 32,300
Petroleum	(379) 18,500	(303) 19,450	(234) 23,350	(312) 25,300	(716) 28,850	(512) 32,550	(556) 34,050	(471) 35,100	(911) 36,200	(664) 36,500
Food	(10) 15,650	(20) 16,600	(29) 20,150	(30) 21,750	(49) 23,850	(36) 26,700	(47) 27,550	(35) 28,150	(73) 28,800	(38) 29,050
Design, Consult, & Engineering Services	(657) 15,850	(732) 16,650	(1,125) 20,500	(1,013) 22,250	(2,581) 24,500	(1,720) 27,750	(1,324) 28,750	(1,069) 29,450	(1,404) 30,200	(1,105) 30,500
Electric Utilities	(583) 15,600	(640) 16,550	(740) 20,200	(831) 21,900	(1,342) 24,200	(798) 27,650	(752) 28,800	(524) 29,600	(1,170) 30,550	(475) 30,950
Gas Utilities	(51) 17,250	(50) 18,150	(36) 21,800	(61) 23,550	(94) 25,950	(80) 29,700	(104) 31,000	(57) 32,000	(150) 33,200	(54) 33,850
Communications Services	(198) 18,250	(152) 19,300	(203) 23,850	(221) 26,150	(636) 29,400	(600) 34,750	(518) 36,600	(276) 37,900	(244) 39,300	(171) 39,850

SOURCE: Engineering Manpower Commission of Engineers Joint Council, Professional Income of Engineers, 1978

TABLE 68

NUMBER AND MEDIAN ANNUAL SALARIES OF ENGINEERS BY TYPE OF EMPLOYMENT GROUP AND SELECTED YEARS SINCE BACCALAUREATE, 1978

TYPE OF EMPLOYMENT	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	35+
All Industry	(4,273) $16,100	(4,457) $17,050	(5,191) $20,950	(5,311) (22,850	(14,160) $25,450	(12,181) $29,400	(10,917) $30,650	(8,684) $31,500	(13,130) $32,350	(7,917) $32,650
All Manufacturing Industries	(2,611) 16,350	(2,603) 17,300	(2,745) 21,100	(2,807) 22,950	(8,652) 25,550	(8,067) 29,600	(7,252) 30,900	(6,059) 31,800	(9,168) 32,750	(5,528) 33,150
All Non-Mfg. Industries	(1,662) 15,800	(1,854) 16,800	(2,446) 20,850	(2,504) 22,750	(5,508) 25,300	(4,114) 28,850	(3,665) 29,900	(2,625) 30,600	(3,962) 31,300	(2,389) 31,600
Federal Government	(185) 15,050	(248) 15,950	(343) 19,850	(396) 21,950	(1,351) 25,050	(2,053) 30,450	(2,142) 32,350	(1,309) 33,600	(1,446) 34,600	(569) 34,150
State Government	(78) 13,450	(105) 14,050	(159) 16,550	(186) 17,850	(331) 19,650	(428) 22,600	(445) 23,600	(302) 24,200	(357) 24,500	(190) 23,600
Local Government	(14) 15,450	(14) 16,150	(41) 19,150	(62) 20,650	(156) 22,750	(162) 26,000	(183) 26,950	(181) 27,500	(224) 27,600	(132) 26,500
All Education All Faculty*	(3) -	(7) 14,550	(70) 16,250	(163) 17,100	(770) 18,450	(1,081) 21,050	(1,100) 22,200	(969) 23,250	(825) 24,800	(959) 25,300
All Education** All Administrators	(0) -	(1) -	(2) -	(3) -	(10) 27,550	(54) 29,500	(102) 30,650	(95) 31,850	(119) 34,750	(203) 42,200
All Education All Researchers**	(0) -	(0) -	(62) 15,100	(64) 16,150	(151) 17,800	(63) 21,100	(56) 22,550	(58) 23,750	(46) 24,900	(47) 22,000
Research and Development	(420) 17,450	(420) 18,450	(554) 22,550	(579) 24,600	(1,825) 27,350	(1,909) 31,300	(1,816) 32,450	(1,184) 33,050	(1,402) 33,300	(671) 32,900

*9-month contract **12-month contracts

TABLE 69

NUMBER AND MEDIAN ANNUAL SALARIES OF ENGINEERS BY GEOGRAPHIC AREA AND SELECTED YEARS SINCE BACCALAUREATE, 1978*

GEOGRAPHIC AREA	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	35+
New England	(144) $15,550	(206) $16,550	(218) $20,550	(226) $22,550	(710) $25,300	(547) $29,150	(585) $30,200	(408) $30,750	(480) $30,950	(215) $30,600)
Middle Atlantic	(690) $16,050	(638) 17,100	(830) 21,300	(1,036) 23,250	(2,524) 25,900	(2,034) 29,600	(1,847) 30,700	(1,367) 31,400	(1,681) 32,100	(1,191) 32,400
East North Central	(841) 16,200	(874) 17,000	(830) 20,200	(914) 21,750	(2,144) 24,000	(1,747) 27,450	(1,651) 28,550	(1,257) 29,300	(1,839) 29,950	(1,082) 29,900
West North Central	(315) 16,000	(795) 16,800	(408) 20,100	(370) 21,700	(878) 23,950	(719) 27,250	(783) 28,200	(527) 28,750	(868) 29,050	(372) 28,600
South Atlantic	(456) 15,400	(590) 16,300	(661) 20,100	(518) 22,050	(1,662) 24,950	(1,924) 29,600	(1,727) 31,150	(1,052) 32,150	(1,275) 32,850	(656) 32,500
South Central	(597) 16,450	(636) 17,200	(735) 20,300	(744) 21,900	(1,692) 24,300	(1,726) 28,550	(1,838) 30,200	(1,249) 31,450	(1,702) 32,750	(1,024) 32,600
Mountain	(95) 16,200	(104) 17,100	(138) 20,800	(107) 22,550	(304) 24,850	(380) 27,800	(408) 28,400	(259) 28,500	(339) 27,850	(132) 26,550
Pacific Coast	(293) 15,750	(365) 16,750	(617) 20,750	(596) 22,000	(1,750) 25,150	(1,790) 28,900	(1,590) 30,150	(1,232) 31,050	(1,872) 32,000	(924) 32,400

*Includes only engineers employed in industry and in government

SOURCE: Engineering Manpower Commission of Engineers Joint Council, Professional Income of Engineers, 1978

TABLE 70

MEDIAN AND MEAN SALARIES OF ENGINEERS BY TYPE OF EMPLOYMENT GROUP, 1976 AND 1978

EMPLOYMENT GROUP	MEDIAN		MEAN	
	1976	1978	1976	1978
Research and Development	$25,650	$28,750	$26,500	$29,350
Petroleum	25,250	29,550	26,100	30,250
Aerospace	24,600	28,400	25,000	28,450
Chemicals	23,400	27,950	24,650	28,750
Electrical & Electronic Industry	22,850	28,150	23,800	28,800
Local Government	22,200	24,500	22,900	25,500
Federal Government	21,400	29,800	21,600	29,450
Construction and Mining	21,150	25,250	21,950	26,050
Utilities and Services	21,050	24,250	22,450	25,600
Design, Consulting & Engineering Services	20,750	24,150	22,000	25,250
Mechanical Industry	20,600	23,850	21,900	24,900
All Education*	20,600	22,100	21,550	23,300
Metals Industries	20,450	23,500	21,400	24,450
State Government	18,200	20,850	18,500	21,150

*Includes 9-10 mohth and 12-month contracts

TABLE 71

MEDIAN SALARIES OF ENGINEERS BY TYPE OF EMPLOYMENT GROUP AND SUPERVISORY STATUS, 1978

EMPLOYMENT GROUP	SUPERVISOR	NON-SUPERVISOR	PERCENT DIFFERENTIAL
Research and Development	$38,050	$26,650	42.7
Petroleum	37,450	26,050	43.7
Aerospace	35,250	26,700	32.0
Chemicals	32,600	25,750	26.6
Electrical & Electronic Industry	37,100	25,800	43.7
Local Government	29,250	22,250	31.4
Federal Government	35,800	28,000	27.8
Construction and Mining	32,700	22,500	45.3
Utilities and Services	30,300	21,300	42.2
Design, Consulting & Engineering Services	32,500	21,850	48.7
Mechanical Industry	29,400	21,350	37.7
Metals Industries	28,750	20,750	38.5
State Government	23,350	17,950	30.0

SOURCE: Engineering Manpower Commission of Engineers Joint Council, Professional Income of Engineers, 1978

TABLE 72

NUMBER AND MEDIAN ANNUAL SALARIES OF ENGINEERS BY HIGHEST DEGREE AND SELECTED YEARS SINCE BACCALAUREATE, 1978 (WEIGHTED NATIONAL AVERAGE)

HIGHEST DEGREE	YEARS SINCE BACCALAUREATE								
	1	5	7	9-11	15-17	21-23	27-29	35+	Overall
B.S.	(11,590) $16,800	(11,097) $20,150	(11,496) $21,850	(28,478) $24,250	(29,131) $28,150	(22,990) $30,350	(33,263) $31,150	(18,585) $31,150	(340,439) $25,900
M.S.	(1,933) $18,150	(3,872) $21,500	(3,742) $24,050	(12,533) $25,700	(10,909) $30,050	(6,778) $32,750	(6,876) $33,700	(3,574) $33,050	(100,356) $28,100
PH.D.	(9) $22,250	(409) $24,750	(663) $26,050	(3,258) $27,950	(3,597) $31,650	(1,776) $34,700	(1,293) $36,800	(989) $37,900	(23,482) $32,000
All Levels	(13,535) $16,900	(15,449) $20,550	(15,973) $22,350	(44,434) $24,950	(43,723) $28,950	(31,617) $31,150	(41,503) $31,850	(23,211) $31,800	(465,457) $26,750

TABLE 73

MEDIAN AND MEAN SALARIES OF ENGINEERS* BY GEOGRAPHICAL REGION, 1976 AND 1978

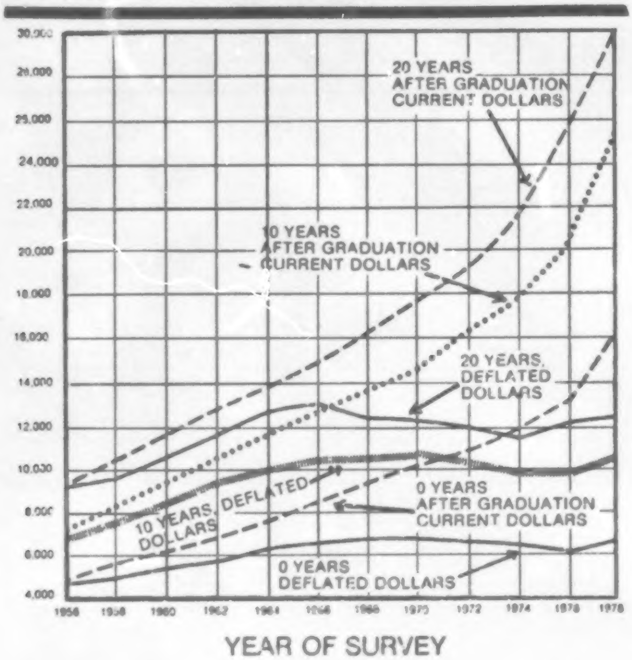
GEOGRAPHICAL REGION	MEDIAN		MEAN	
	1976	1978	1976	1978
Pacific	$23,300	$27,050	$24,150	$27,500
Middle Atlantic	23,100	26,500	24,250	27,550
Mountain	22,100	25,400	22,950	26,100
New England	22,050	26,400	22,850	26,650
East North Central	21,500	24,450	22,550	25,550
West North Central	21,450	24,050	22,200	24,800
South Central	21,350	25,600	22,500	26,800
South Atlantic	19,900	26,400	21,100	27,100

*Includes only engineers employed in industry or government

SOURCE: Engineering Manpower Commission of Engineers Joint Council, Professional Income of Engineers, 1978

CHART 7

TRENDS IN SELECTED MEDIAN SALARIES OF ENGINEERS, 1956-1978



SOURCE: National Society of Professional Engineers, Professional Engineers' Income and Salary Survey, 1977

TABLE 74

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY BRANCH OF ENGINEERING AND YEAR OF ENTRY INTO PROFESSION, 1977

Year of Entry	Aeronautical & Aerospace	Agricultural	Chemical	Civil	Electrical & Electronic	Industrial	Mechanical	Metallurgical & Materials	Petroleum & Mining	Sanitary	Other
1977	$ *	$ ---	$ *	$13,500	$ *	$ *	$ *	$ *	$ *	$ *	$ *
1976	*	*	16,790	13,970	15,500	15,230	15,460	*	*	14,550	*
1975	*	*	*	15,590	16,380	*	16,170	*	*	16,000	*
1974	*	*	*	16,880	17,940	*	18,040	---	*	17,060	*
1973	*	*	*	17,670	19,250	*	18,000	*	*	18,430	*
1972	*	*	*	18,520	19,430	*	19,420	*	*	19,130	*
1971	*	*	*	19,450	20,060	19,670	20,500	*	27,000	20,540	*
1969-70	*	*	24,170	21,260	21,990	22,340	21,620	*	25,350	20,750	23,700
1967-68	*	*	24,810	22,720	23,160	23,400	23,380	*	26,630	23,250	25,500
1965-66	*	*	31,000	24,220	24,780	24,380	25,840	*	*	25,380	27,000
1963-64	*	*	27,860	26,810	26,520	26,400	27,430	*	*	29,890	29,100
1961-62	26,790	*	29,570	27,440	27,850	31,000	27,090	*	*	29,000	28,500
1959-60	27,750	*	29,790	28,280	28,130	28,500	27,730	*	33,500	29,630	26,250
1957-58	*	*	32,330	29,260	28,590	31,000	29,460	*	30,800	30,890	32,670
1955-56	29,700	*	32,220	28,750	28,330	25,500	29,910	*	*	30,450	32,500
1953-54	*	*	29,000	29,680	29,940	35,630	29,270	*	32,000	28,000	33,430
1949-52	29,550	30,750	33,750	31,370	30,000	31,730	30,510	34,000	36,610	33,500	35,330
1944-48	35,280	*	36,430	31,970	32,040	30,000	31,910	*	38,000	35,420	38,030
1939-43	31,780	*	38,390	33,000	32,620	30,910	32,200	*	47,000	35,360	37,780
1934-38	*	*	33,500	33,620	33,750	38,610	30,920	*	*	37,500	39,290
1929-33	*	---	*	29,730	*	*	29,700	*	*	*	*
1928 and before	---	---	*	28,880	*	*	*	---	*	*	*

*Fewer than 20 respondents.

SOURCE: National Society of Professional Engineers, Professional Engineers' Income and Salary Survey, 1977.

TABLE 75

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY TYPE OF WORK PERFORMED, 1973-1977

TYPE OF WORK	MEDIAN INCOME			PERCENT INCREASE	
	1973	1975	1977	1973-75	1975-77
Executive-Administrative	$25,220	$28,250	$31,860	12%	13%
Sales	21,020	25,110	28,040	19	12
Teaching	19,940	23,500	26,300	18	12
Design	17,290	19,820	22,370	15	13
Production, Quality Control, Maintenance, etc.	17,780	20,270	22,830	14	13
Research and Development	20,210	23,330	26,310	15	13
Construction Supervision	18,070	20,960	24,140	16	15
Consulting	22,180	24,620	27,910	11	13
Other	18,310	21,810	23,250	19	7

TABLE 76

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY BRANCH OF ENGINEERING, 1973-1977

BRANCH OF ENGINEERING	MEDIAN INCOME			PERCENT INCREASE	
	1973	1975	1977	1973-75	1975-77
Aeronautical and Aerospace	$21,720	$25,360	$28,220	18%	11%
Agricultural	19,980	22,690	25,900	14	14
Chemical	21,590	26,010	29,340	20	13
Civil	20,410	23,260	26,270	14	13
Electrical & Electronic	20,330	23,340	26,280	15	13
Industrial	20,800	24,100	26,440	16	10
Mechanical	20,320	23,580	26,930	16	14
Sanitary	20,630	23,090	25,400	12	10
Other	22,930	26,330	30,930	15	17

TABLE 77

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY LEVEL OF EDUCATION, 1973-1977

LEVEL OF EDUCATION	MEDIAN INCOME			PERCENT INCREASE	
	1973	1975	1977	1973-75	1975-77
Less than Bachelor's	$19,770	$22,770	$26,220	15%	15%
Bachelor's Degree	20,420	23,290	26,260	14	13
Master's Degree	20,950	24,280	27,280	16	12
Doctor's Degree	24,840	27,790	31,920	12	15

SOURCE: National Society of Professional Engineers, Professional Engineers' Income and Salary Survey, 1977

TABLE 78

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY FIELD OF EMPLOYMENT AND YEAR OF ENTRY INTO PROFESSION, 1977

Year of Entry	Industry	Public Utilities	Federal Government	State Government	County or Municipal Government	Consulting Firm	Construction-Contractor Firm	Educational Institution	Other Nonprofit Organization
1977	$15,380	$ *	$ *	$ *	$ --	$ *	$ *	$ *	$ *
1976	16,320	15,070	14,000	*	*	14,260	14,790	*	*
1975	17,580	15,560	15,470	*	*	15,620	17,400	*	*
1974	18,640	17,810	16,920	*	*	16,720	18,940	*	*
1973	18,960	19,160	18,900	*	17,170	18,190	18,680	*	--
1972	19,840	19,640	17,800	16,720	19,000	18,830	19,910	*	*
1971	20,600	20,020	21,820	18,550	18,780	19,990	23,060	*	*
1969-70	22,190	22,160	22,730	18,900	20,410	21,100	23,550	21,300	*
1967-68	23,800	23,000	23,420	19,950	22,500	23,200	24,840	*	*
1965-66	25,520	25,410	24,000	22,050	22,340	25,470	29,120	23,000	*
1963-64	27,380	26,360	26,640	22,790	24,800	28,860	32,500	26,750	*
1961-62	27,720	28,240	28,130	23,390	24,920	29,280	30,570	25,130	*
1959-60	28,350	27,130	28,450	24,750	25,030	30,290	29,880	27,820	*
1957-58	29,740	29,480	29,280	25,420	28,040	31,600	33,110	28,730	*
1955-56	29,250	29,450	29,800	26,310	26,330	31,570	32,860	29,000	*
1953-54	29,470	29,570	31,170	26,000	26,500	30,940	36,250	31,140	*
1949-52	31,330	30,510	31,310	26,150	28,640	35,490	36,130	30,000	30,180
1944-48	32,070	31,470	32,670	27,410	27,750	37,360	40,240	32,000	32,000
1939-43	32,990	33,410	32,740	28,040	28,070	39,200	40,000	32,710	32,000
1934-38	35,300	40,330	33,430	27,000	28,800	33,680	36,750	33,430	*
1929-33	32,000	*	*	*	*	29,650	*	*	*
1928 and before	*	--	*	*	--	28,070	*	*	*

*Fewer than 20 cases.

TABLE 79

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY TYPE OF WORK AND YEAR OF ENTRY INTO PROFESSION, 1977

Year of Entry	Executive-Administrative	Sales	Teaching	Design	Production Quality Control, Maintenance	Research & Development	Construction Supervision	Consulting	Other
1977	$ *	$ *	$ --	$14,570	$14,860	$ *	$ *	$ *	$ *
1976	*	*	*	15,030	15,630	15,910	13,920	14,560	*
1975	16,570	*	*	15,840	16,690	16,640	17,220	16,080	*
1974	19,750	*	*	17,150	18,610	17,330	17,440	17,650	*
1973	20,630	*	*	17,850	18,900	18,000	17,680	18,820	*
1972	21,440	19,880	*	18,710	19,810	18,250	18,630	19,220	*
1971	21,960	*	*	19,340	19,790	20,470	19,920	20,680	20,250
1969-70	23,390	23,670	*	20,530	21,980	21,970	22,140	22,020	19,960
1967-68	25,540	25,000	*	22,210	22,230	23,170	23,640	23,950	23,140
1965-66	26,280	26,380	*	23,380	24,000	25,590	24,500	26,330	*
1963-64	28,940	27,750	24,750	24,980	25,310	27,200	25,630	28,820	*
1961-62	29,740	*	23,570	25,590	25,050	26,530	27,860	29,300	*
1959-60	31,040	30,330	25,930	25,790	25,130	28,220	26,820	29,570	*
1957-58	31,700	33,000	27,820	26,230	26,550	29,330	27,300	29,850	*
1955-56	31,900	*	26,440	26,550	25,500	28,390	26,570	29,950	*
1953-54	32,170	*	27,380	26,950	25,700	30,460	28,070	31,330	*
1949-52	33,930	31,000	27,000	26,850	27,290	30,330	28,540	33,670	28,070
1944-48	37,590	33,560	27,680	27,730	27,660	31,360	27,830	33,100	29,500
1939-43	38,660	36,560	30,370	28,670	26,040	31,730	27,860	37,210	*
1934-38	40,890	*	28,130	26,700	25,880	31,290	27,000	36,710	*
1929-33	35,460	*	*	*	*	*	*	28,290	---
1928 and before	*	*	---	*	*	---	*	28,750	*

*Fewer than 20 cases.

SOURCE: National Society of Professional Engineers, Professional Engineers' Income and Salary Survey, 1977.

TABLE 80

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY LEVEL OF EDUCATION AND YEAR OF ENTRY INTO PROFESSION, 1977

Year of Entry	Less Than Bachelor's Degree	Bachelor's Degree	Master's Degree	Doctor's Degree
1977	$ *	$14,550	$ *	$ *
1976	*	15,050	16,430	*
1975	*	15,920	17,270	*
1974	*	17,490	17,730	*
1973	*	18,390	18,710	*
1972	*	18,890	19,620	*
1971	*	19,810	20,750	*
1969-70	20,670	21,410	22,400	22,800
1967-68	22,000	23,000	23,720	26,400
1965-66	23,360	24,440	25,770	27,800
1963-64	24,750	26,680	27,780	29,850
1961-62	27,300	27,430	28,070	29,500
1959-60	26,360	27,650	29,610	29,910
1957-58	27,900	29,240	30,400	31,130
1955-56	27,140	28,990	30,000	31,330
1953-54	27,000	29,200	31,030	35,250
1949-52	27,870	30,970	32,690	35,830
1944-48	27,320	32,420	33,180	37,500
1939-43	31,400	33,010	33,050	38,590
1934-38	28,500	33,360	35,480	42,500
1929-33	*	29,420	32,330	*
1928 and before	*	29,700	*	*

* Fewer than 20 cases.

TABLE 81

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY FIELD OF EMPLOYMENT, 1973-77

	MEDIAN INCOME			% INCREASE	
	1973	1975	1977	1975-77	1975-77
Industry	$20,330	$23,810	$26,930	17%	13%
Public Utilities	19,780	22,670	25,960	15	15
Federal Government	21,930	24,700	27,960	13	13
State Government	18,130	20,730	23,500	14	13
County/Municipal Government	18,990	21,680	24,270	14	12
Consulting Firm	22,010	24,420	27,280	11	12
Construction-Contractor Firm	24,220	26,530	29,500	10	11
Educational Institution	22,070	25,950	28,780	18	11

SOURCE: National Society of Professional Engineers, Professional Engineers' Income and Salary Survey, 1977

TABLE 82

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY FIELD OF EMPLOYMENT AND YEARS OF EXPERIENCE, 1977

FIELD OF EMPLOYMENT	Engineers With 5 Years of Experience	Engineers With 10 Years of Experience	Engineers With 20 Years of Experience
Industry	$19,840	$23,800	$29,740
Public Utilities	19,640	23,000	29,480
Federal Government	17,800	23,420	29,280
State Government	16,720	19,950	25,420
County Government	19,000	22,500	28,040
Consulting Firm	18,830	23,200	31,600
Construction-Contractor Firm	19,910	24,840	33,110
Educational Institution	*	*	28,730
Other Nonprofit Organization	*	*	*

* Fewer than twenty cases.

TABLE 83

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY REGION, 1973-77

REGION	MEDIAN INCOME			% INCREASE	
	1973	1975	1977	1973-75	1975-77
New England & Middle Atlantic	$22,530	$25,540	$28,350	13%	11%
South*	21,290	23,540	26,530	11	13
Midwest	20,090	23,010	26,160	15	14
Plains	18,990	21,900	24,730	15	13
Southwest**	19,730	22,790	26,710	16	17
West***	20,750	23,920	27,520	15	15

* Includes Puerto Rico. ** Includes Canal Zone. *** Includes Alaska and Hawaii.

TABLE 84

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY EMPLOYMENT STATUS AND YEAR OF ENTRY, 1977

Year of Entry	Self-Employed	Employee	Year of Entry	Self-Employed	Employee
1977	$ ---	$14,640	1961-62	$33,710	$27,230
1976	*	15,140	1959-60	36,380	27,540
1975	*	16,300	1957-58	37,500	29,030
1974	*	17,450	1955-56	39,250	28,550
1973	*	18,410	1953-54	36,430	29,390
1972	24,000	19,080	1949-52	42,790	30,150
1971	25,800	20,010	1944-48	42,400	31,250
1969-70	24,460	21,640	1939-43	46,280	32,150
1967-68	28,070	23,140	1934-38	38,690	32,830
1965-66	29,500	24,830	1929-33	36,250	29,180
1963-64	31,890	26,600	1928 and before	31,500	25,500

*Fewer than 20 cases.

SOURCE: American Institute of Industrial Engineers, Inc., Compensation of Industrial Engineers, Fourth Edition, May 1979.

TABLE 85

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY TYPE OF EMPLOYER, 1978

TYPE OF EMPLOYER	Total Employees	Median Income	Mean Income
MANUFACTURING ORGANIZATIONS			
Aerospace & Aircraft Products	109	$25,000	$25,867
Apparel and Other Textile Products	115	23,500	27,608
Chemical, Pharmaceutical & Allied Products	336	26,200	29,131
Electrical and Electronic Equipment	773	24,762	26,926
Fabricated Metal Products	764	22,902	25,729
Food and Kindred Products	251	25,750	28,907
Furniture & Wood Products	72	21,000	23,987
Instruments & Related Products	65	22,866	25,556
Machinery (Except Electrical)	270	24,000	27,326
Paper and Allied Products	133	24,000	25,354
Petroleum & Coal Products	43	30,710	30,845
Primary Metal Industries	309	27,267	29,422
Printing and Publishing	94	23,442	27,260
Rubber & Misc. Plastics Products	171	23,000	26,165
Stone, Clay and Glass Products	129	23,500	24,988
Textile Mill Products	98	22,471	24,280
Transportation Equipment	315	25,483	26,887
All Other Manufacturing	308	24,000	27,314
NON-MANUFACTURING ORGANIZATIONS			
Banks and Finance Organizations	88	23,900	32,087
Colleges and Universities	311	28,000	28,836
Communications Organizations	47	28,000	30,889
Consulting Organizations	313	32,000	37,234
Governmental Organizations	490	27,635	28,557
Hospitals and Health Organizations	219	24,320	25,628
Insurance Companies	44	20,700	21,213
Merchandising (Wholesale and Retail)	82	28,385	30,462
Public Utilities	117	24,500	26,014
Transportation and Warehousing	153	26,071	29,035

SOURCE: American Institute of Industrial Engineers, Inc., *Compensation of Industrial Engineers*, Fourth Edition, May 1979

TABLE 86

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY GEOGRAPHIC AREA, 1978

GEOGRAPHIC AREA	Total Employees	Median Income	Mean Income
New York City & Vicinity	454	$28,025	$32,718
Northeastern States (Excluding New York City & Vicinity)	955	25,012	28,608
Southern States	1,506	24,381	26,595
Chicago & Vicinity	291	27,000	30,659
Midwestern States (Excluding Chicago & Vicinity	1,274	24,627	27,105
Southwestern States	444	24,437	26,367
Plains States	490	23,442	24,959
Mountain States	200	25,000	27,794
Los Angeles & Vicinity	347	26,937	30,547
San Francisco & Vicinity	238	28,159	32,118
Pacific States (Excluding Los Angeles, San Francisco & Vicinities)	181	25,922	27,412

TABLE 87

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY YEARS OF EXPERIENCE, 1978

YEARS OF EXPERIENCE	Total Employees	Median Income	Mean Income
Under 2 Years	238	$17,425	$17,942
2-4 Years	872	19,000	19,609
5-9 Years	1,412	22,519	23,491
10-14 Years	1,183	26,075	27,266
15-19 Years	841	28,975	31,698
20-24 Years	740	30,887	33,742
25-29 Years	709	32,000	35,534
30 Years and Over	387	32,000	38,275

TABLE 88

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY DEGREE LEVEL, 1978

DEGREE LEVEL	Total Employees	Median Income	Mean Income
Ph.D.	323	$31,000	$33,278
M.S., M.E. or M.A. Degree	1,269	26,220	29,810
MBA	806	27,375	30,437
Bachelor's (Engineering)	2,419	24,500	27,391
Bachelor's (non-Engineering)	905	23,950	25,914
Less Than Bachelor's Degree	654	22,285	23,572

SOURCE: Society of Manufacturing Engineers, Inc., Compensation in Manufacturing, (Engineers and Managers), Second Edition, 1978.

TABLE 89

NUMBER AND TOTAL ANNUAL INCOME OF ENGINEERS EMPLOYED IN MANUFACTURING BY EDUCATION LEVEL, 1978

EDUCATION LEVEL	Total Employees	Median Income	Mean Income
Graduate Degree	163	$23,544	$24,330
B.S. in Engineering	416	22,000	23,420
Other BA/BS Degree	170	20,245	21,296
Engineering Technician Degree	172	19,400	19,561
Some College (No Degree)	449	21,500	22,285
No College	136	20,520	23,466

TABLE 90

NUMBER AND TOTAL ANNUAL INCOME OF ENGINEERS EMPLOYED IN MANUFACTURING BY YEARS OF EXPERIENCE, 1978

YEARS OF EXPERIENCE	Total Employees	Median Income	Mean Income
Under 5 Years	220	$17,000	$17,829
5-9 Years	237	19,200	19,658
10-14 Years	222	21,000	21,621
15-19 Years	188	22,053	23,260
20-24 Years	196	23,000	23,707
25-29 Years	221	23,500	25,770
30 Years and Over	230	24,152	25,943

TABLE 91

NUMBER AND TOTAL ANNUAL INCOME OF ENGINEERS EMPLOYED IN MANUFACTURING BY GEOGRAPHIC AREA, 1978

GEOGRAPHIC AREA	Total Employees	Median Income	Mean Income
New England States	141	$20,000	$20,556
New York and New Jersey	155	22,300	23,211
Pennsylvania	82	20,449	21,472
Southeastern States	155	19,850	20,922
Ohio	110	21,400	22,111
Michigan	121	24,536	26,616
Indiana	68	20,875	21,707
Illinois/Wisconsin	192	21,000	23,869
Southwestern States	94	20,482	20,974
California	180	21,840	22,787
Western States	218	21,500	22,097

SOURCE: Society of Manufacturing Engineers, Inc., Compensation in Manufacturing, (Engineers and Managers), Second Edition, 1978

TABLE 92

NUMBER AND TOTAL ANNUAL INCOME OF ENGINEERS EMPLOYED IN MANUFACTURING BY TYPE OF JOB FUNCTION, 1978

JOB FUNCTION	Total Employees	Median Income	Mean Income
Industrial Engineering	113	$19,000	$19,998
Manufacturing Engineering	449	21,000	21,991
Process Engineering	82	21,000	21,854
Tool Engineering	132	20,531	21,706
Other Manufacturing Engineering	334	21,775	22,312
Design Engineering	155	20,297	21,704
Research & Development Engineering	87	24,500	24,575
Technical Sales Engineering	84	24,797	28,793
All Other Engineering Functions	82	22,535	24,200

TABLE 93

NUMBER AND TOTAL ANNUAL INCOME OF ENGINEERS EMPLOYED IN MANUFACTURING BY TYPE OF EMPLOYER, 1978

TYPE OF EMPLOYER	Total Employees	Median Income	Mean Income
Chemical, Rubber & Plastics Products	47	$20,000	$21,371
Primary Metal Producer	68	20,822	21,971
Fabricated Metals	255	20,000	20,969
Machinery (Except Electrical)	161	21,000	22,436
Electrical and Electronic Equipment	233	21,500	22,057
Transportation Equipment	335	22,647	23,340
Other Manufacturing Industries	54	21,000	21,579
Other Non-Manufacturing Industries	269	21,150	22,740

TABLE 94

NUMBER AND TOTAL ANNUAL INCOME OF MANAGERS EMPLOYED IN MANUFACTURING BY EDUCATION LEVEL, 1978

EDUCATION LEVEL	Total Employees	Median Income	Mean Income
Graduate Degree	284	$30,747	$38,019
B.S. in Engineering	516	30,000	35,629
Other BA/BS Degree	211	28,563	32,074
Engineering Technician Degree	164	26,026	29,116
Some College (no Degree)	651	27,000	30,907
No College	191	26,775	31,953

SOURCE: Institute of Electrical and Electronics Engineers, Inc., IEEE 1979 U.S. Membership Salary and Fringe Benefit Survey, September 1979.

TABLE 95

NUMBER AND TOTAL ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY GEOGRAPHIC AREA, 1978

GEOGRAPHIC AREA	Total Employees	Median Income	Mean Income
Northeastern States (Excluding Boston, New York City & Vicinities)	547	$31,000	$32,802
Boston & Vicinity	293	31,500	33,159
New York City & Vicinity	407	32,000	36,597
Eastern States (Excluding Philadelphia, Washington/ Baltimore & Vicinities)	423	28,800	30,666
Philadelphia & Vicinity	159	30,000	37,203
Washington/Baltimore & Vicinity	481	32,000	34,693
Southeastern States (Excluding Florida)	396	27,500	28,698
Florida	157	27,501	29,049
Central States (Excluding Chicago/Milwaukee & Vicinity	417	27,851	30,594
Chicago/Milwaukee & Vicinity	236	28,501	32,379
Southwestern States	585	26,552	29,005
Western States (Excluding Los Angeles, San Diego, San Francisco/ Oakland & Vicinities)	387	27,200	28,605
Los Angeles, San Diego & Vicinity	551	31,460	33,475
San Francisco/Oakland & Vicinity	355	31,500	33,169

TABLE 96

NUMBER AND TOTAL ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY TYPE OF DEGREE, 1978

TYPE OF DEGREE	Total Employees	Median Income	Mean Income
Doctorate	760	$34,000	$36,768
MBA	180	30,000	33,188
MSEE	1,173	30,000	32,250
Master's (Not MSEE or MBA)	451	30,580	31,937
Bachelor of Engineering Technology	121	24,694	27,611
Bachelor of Science or Engineering	2,401	28,300	30,530
Bachelor of Arts	111	32,500	37,712
Less Than Bachelor's	254	27,001	28,861

SOURCE: Institute of Electrical and Electronics Engineers, Inc., IEEE 1979 U.S. Membership Salary and Fringe Benefit Survey, September 1979.

TABLE 97

NUMBER AND TOTAL ANNUAL INCOME OF FULL-TIME EMPLOYED IEEE ENGINEERS BY AREA OF PRIMARY TECHNICAL COMPETENCE, 1978

Primary Technical Competence	Number of Employees	Median Income	Mean Income
Acoustics, Speech & Signal Processing	78	$30,000	$31,545
Aerospace and Electronic Systems	458	31,770	32,917
Antennas & Propagation	72	32,617	35,094
Circuits and Systems	243	27,000	28,359
Communications	513	30,500	33,207
Components, Hybrids	71	29,001	32,714
Computers	752	27,000	29,460
Consumer Electronics	51	27,564	29,895
Control Systems	150	28,975	30,504
Education	113	25,001	27,034
Electron Devices	133	32,500	35,213
Electro-Optical Systems	92	30,761	31,821
Engineering Management	562	36,500	40,914
Engineering in Medicine & Biology	80	24,000	28,143
Industrial Electronics & Control Instrumentation	177	26,269	29,028
Industry Applications	242	30,000	30,637
Instrumentation and Measurement	177	28,415	32,058
Microwave Theory & Techniques	80	28,914	30,613
Power Engineering	754	28,000	29,779
Reliability	55	29,600	29,184

SOURCE: Institute of Electrical and Electronics Engineers, Inc., IEEE 1979 U.S. Membership Salary and Fringe Benefit Survey, September 1979.

TABLE 98

NUMBER AND TOTAL ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY JOB FUNCTION, 1978

JOB FUNCTION	Total Employees	Median Income	Mean Income
Applications	387	$28,548	$31,345
Dean, Professor, Instructor, Etc.	242	26,850	28,596
Design	1,163	27,000	28,330
Development	1,161	30,780	31,424
Engineering Support (Draftsman, Lab Assistant, Technician)	39	22,001	22,624
Field/Construction	83	25,244	26,300
General & Corporate Management	548	38,899	46,134
Information Systems	92	28,370	30,106
Manufacturing	107	28,440	30,849
Marketing	164	32,000	35,349
Operations & Maintenance	293	27,350	27,924
Planning	245	28,090	30,227
Quality Control (Testing & Evaluation)	138	25,500	27,540
Research	441	32,500	34,006
Safety	21	26,575	27,034
Valuation (Cost Engineering)	16	27,900	31,129

TABLE 99

NUMBER AND TOTAL ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY YEARS OF EXPERIENCE, 1978

YEARS OF EXPERIENCE	Total Employees	Median Income	Mean Income
Under 2 Years	223	$18,000	$19,832
2-4 Years	457	19,801	20,529
5-9 Years	804	24,000	25,217
10-14 Years	892	28,451	29,295
15-19 Years	798	32,400	34,201
20-24 Years	717	33,401	35,431
25-29 Years	839	34,200	36,771
30 Years or More	777	36,000	41,866

SOURCE: The Institute of Electrical and Electronics Engineers, IEEE 1979 U.S. Membership Salary Fringe Benefit Survey, September 1979.

TABLE 100

NUMBER AND MEAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY INDUSTRY OR SERVICE OF EMPLOYER, 1978

INDUSTRY OR SERVICE OF EMPLOYER	Number of Respondents	Median Income	Mean Income
Ordnance & Accessories	124	$28,550	$34,693
Petroleum & Related Products	58	30,422	33,755
Electronic Computing Equipment	425	28,912	31,005
Electric Machinery, Equipment & Supplies	193	31,685	34,676
Electric Measuring Instruments & Test Equipment	107	30,000	34,368
Power, Distribution & Specialty Transformers	78	27,000	28,354
Telephone & Telegraph Apparatus	176	32,100	35,404
Aircraft	202	29,059	30,060
Manufacturers of Instruments	77	26,500	31,095
Engineering Lab, Scientific & Research Instruments, and Associated Equipment	117	31,050	31,462
Instruments for Measuring, Controlling & Indicating Physical Characteristics	130	29,001	32,336
Communications Services	211	29,325	33,356
Telephone Services	104	30,000	33,272
Electrical, Gas & Sanitary Services	66	28,230	29,851
Electrical Companies and Systems	471	28,500	30,461
Electrical & Other Services Combined	86	28,995	31,917
Computer & Data Processing Services	137	30,766	32,827
Medical & Health Services	61	24,000	26,473
Educational Services	171	25,000	26,956
Consulting Engineers	315	30,382	35,894
Electronics Components & Accessories	230	30,645	36,410
Nonprofit Education & Research Agencies	222	30,262	31,225
Federal Government	623	30,198	30,618

SALARIES OF ENGINEERING TECHNICIANS AND TECHNOLOGISTS

- Median salaries paid to engineering technicians increased 11.6% from 1977 to 1979, according to *SALARIES OF ENGINEERING TECHNICIANS AND TECHNOLOGISTS, 1979* conducted by the *Engineering Manpower Commission of Engineers Joint Council*. Starting salaries for new graduates were most noticeably affected with small increases in salary. Those engineering technicians with 10 years of experience experienced an 18.0% increase in salary, while those with 20 years of experience reported their salaries rose 15.9% and those with 30 years of experience rose 15.7% (Table 101). Similar figures are shown in Table 102 for engineering bachelor of technology graduates.

The 1979 survey report is based on returns from 568 establishments employing 47,443 technicians and technologists. Table 103 presents 1979 median salaries of engineering technicians by type of employment and years since graduation.

Although engineering technicians start employment at higher salaries in the Western states, after only five years of working, those technicians in the Northeastern part of the U.S. are earning more (Table 104).

Engineering technicians working in industry report the highest median salaries, while those working in education earn the least (Table 105). Table 106 presents similar information for engineering bachelor of technology graduates.

Although graduate technicians begin employment at substantially higher salaries than non-graduates, the advantage is reduced with increasing experience. The median annual salary for a graduate technician in 1979 was $11,450 for those with less than a year of experience and $18,050 after about 13 years of experience. This compares to a salary in 1979 of $9,550 for non-graduate technicians after one year of experience. Bachelor's degree technologists, however, have median starting salaries of $14,200 - 24% higher than the median for two-year graduates and 49% more than for non-graduates.

SOURCE: Engineering Manpower Commission, Salaries of Engineering Technicians and Technologists, 1979

TABLE 101

NUMBER, MEDIAN, AND MEAN ANNUAL SALARIES OF ENGINEERING TECHNICIANS BY YEARS SINCE GRADUATION, 1979 (WEIGHTED NATIONAL DATA)

YEARS SINCE GRADUATION	NUMBER OF TECHNICIANS	SALARY	
		MEDIAN	MEAN
0	936	$10,200	$10,700
1	1,821	10,800	11,200
2	1,922	11,400	11,750
3	2,131	12,000	12,250
4	2,113	12,550	12,750
5	2,312	13,100	13,250
6	2,197	13,600	13,750
7	2,206	14,100	14,200
8	2,262	14,550	14,650
9-11	7,381	15,400	15,450
12-14	6,520	16,400	16,500
15-17	5,859	17,150	17,250
18-20	5,094	17,700	17,750
21-23	4,905	18,050	18,100
24-26	4,060	18,250	18,300
27-29	3,761	18,400	18,400
30-34	4,927	18,450	18,450
35+	6,240	18,500	18,500

TABLE 102

NUMBER, MEDIAN, AND MEAN ANNUAL SALARIES OF ENGINEERING BACHELOR OF TECHNOLOGY GRADUATES BY YEARS SINCE GRADUATION, 1979 (WEIGHTED NATIONAL DATA)

YEARS SINCE GRADUATION	NUMBER OF TECHNOLOGISTS	SALARY	
		MEDIAN	MEAN
0	94	$14,200	$14,150
1	422	14,650	14,650
2	392	15,100	15,150
3	425	15,600	15,650
4	244	16,050	16,100
5	270	16,500	16,600
6	249	17,000	17,100
7	222	17,450	17,600
8	214	17,900	18,050
9-11	623	18,750	18,950
12-14	406	19,900	20,100
15-17	316	20,850	21,100
18-20	256	21,600	21,850
21-23	205	22,050	22,400
24-26	232	22,250	22,700
27-29-	199	22,200	22,800
30-34	232	21,900	22,800
35+	195	21,000	22,550

SOURCE: Engineering Manpower Commission, Salaries of Engineering Technicians and Technologists, 1979.

TABLE 103

NUMBER AND MEDIAN SALARIES OF ENGINEERING TECHNICIANS BY TYPE OF EMPLOYMENT AND SELECTED YEARS SINCE GRADUATION, 1979

TYPE OF EMPLOYMENT	YEARS SINCE GRADUATION - BASE YEAR 1975								
	1	5	7	9-11	15-17	18-20	21-23	27-29	35+
Aerospace	(23) 11,700	(21) 13,800	(18) 14,700	(63) 15,900	(85) 17,600	(87) 18,150	(120) 18,500	(126) 18,900	(198) 19,000
Machinery	(46) 12,550	(36) 13,550	(49) 14,100	(111) 14,800	(62) 16,100	(45) 16,650	(75) 17,150	(55) 17,800	(104) 18,150
Metal Products	(25) 11,450	(59) 12,900	(65) 13,600	(106) 14,600	(69) 16,250	(54) 16,800	(45) 17,200	(60) 17,500	(128) 17,050
Instruments	(4) ---	(9) 13,050	(5) 14,050	(37) 15,150	(16) 16,250	(13) 16,450	(16) 16,550	(6) 16,600	(18) 16,600
Electrical & Electronic Equipment	(149) 11,750	(209) 13,800	(225) 14,850	(1,045) 16,400	(838) 19,150	(716) 20,150	(680) 20,850	(587) 21,350	(744) 20,250
Electrical Equipment	(4) ---	(9) 13,450	(12) 14,800	(52) 16,150	(50) 17,400	(32) 17,600	(44) 17,700	(27) 17,800	(46) 17,800
Electronic Equipment	(303) 11,700	(459) 13,300	(496) 14,100	(1,712) 15,400	(1,219) 17,750	(1,066) 18,700	(959) 19,500	(813) 20,400	(1,068) 19,900
Chemicals	(14) 10,350	(26) 12,600	(27) 13,650	(89) 15,050	(77) 16,950	(57) 17,400	(45) 17,600	(44) 17,650	(82) 17,450
Petroleum	(53) 11,900	(121) 13,600	(108) 14,500	(342) 15,700	(205) 17,800	(172) 18,600	(128) 19,250	(171) 20,100	(348) 20,650
Other Manufactured Products	(3) ---	(10) 12,350	(9) 12,850	(40) 13,600	(23) 14,750	(23) 15,250	(14) 15,600	(8) 16,100	(34) 16,500
Miscellaneous Manufacturing	(12) 10,650	(41) 12,300	(33) 13,150	(122) 14,350	(85) 16,400	(79) 17,150	(69) 17,750	(66) 18,350	(160) 18,400
Construction	(31) 10,450	(41) 12,750	(20) 14,000	(71) 15,800	(87) 19,100	(61) 20,300	(57) 21,050	(39) 21,500	(86) 20,550
Construction & Consulting	(116) 10,450	(111) 12,700	(78) 13,800	(247) 15,400	(197) 17,750	(157) 18,450	(147) 18,900	(94) 19,150	(223) 19,000
Engineering & Architectural Consulting	(85) 10,300	(70) 12,900	(58) 14,000	(176) 15,300	(110) 16,900	(96) 17,300	(90) 17,550	(55) 17,800	(137) 17,850
Research and Technical Services	(162) 12,700	(143) 14,450	(144) 15,300	(553) 16,450	(295) 18,400	(272) 19,050	(202) 19,500	(223) 19,850	(452) 19,550
Research & Development	(225) 12,750	(223) 14,550	(223) 15,450	(797) 16,600	(525) 18,400	(521) 18,950	(426) 19,250	(432) 19,400	(829) 18,950
Technical Services	(43) 10,150	(56) 11,800	(36) 12,600	(105) 13,700	(56) 15,500	(53) 16,050	(54) 16,350	(21) 16,450	(64) 15,800
All Utilities	(125) 11,600	(194) 14,650	(203) 16,000	(638) 17,600	(353) 19,650	(298) 20,150	(261) 20,500	(228) 20,800	(372) 20,900
Electric Utilities	(123) 11,650	(187) 14,650	(193) 16,000	(627) 17,700	(339) 19,750	(281) 20,250	(253) 20,600	(212) 20,900	(351) 21,000
Gas Utilities & Pipelines	(2) ---	(7) 11,450	(10) 12,800	(9) 14,700	(13) 17,600	(16) 18,450	(8) 18,950	(16) 19,300	(21) 19,300
Communication Services	(110) 13,550	(37) 16,300	(62) 17,300	(273) 18,400	(157) 19,450	(171) 19,700	(175) 19,850	(172) 19,950	(197) 20,000

SOURCE: Engineering Manpower Commission, Salaries of Engineering Technicians and Technologists, 1979

TABLE 104

NUMBER AND MEDIAN SALARIES OF ENGINEERING TECHNICIANS IN INDUSTRY BY GEOGRAPHIC AREA AND SELECTED YEARS SINCE GRADUATION, 1979

GEOGRAPHIC AREA	YEARS SINCE GRADUATION - BASE YEAR 1979								
	1	5	7	9-11	15-17	18-20	21-23	27-29	35+
Northeast	(264) $11,850	(219) $13,850	(208) $14,850	(707) $16,200	(458) $18,250	(425) $18,900	(368) $19,250	(371) $19,400	(745) $18,900
North Central	(99) 11,750	(203) 13,900	(236) 14,850	(747) 16,150	(505) 18,050	(387) 18,700	(350) 19,200	(325) 19,700	(633) 20,000
South	(187) 11,100	(274) 13,100	(252) 14,000	(699) 15,100	(449) 16,750	(396) 17,250	(347) 17,600	(265) 18,000	(380) 18,150
West	(141) 12,250	(221) 13,750	(216) 14,500	(584) 15,550	(358) 17,450	(353) 18,100	(372) 18,650	(287) 19,050	(490) 18,500

TABLE 105

NUMBER AND MEDIAN SALARIES OF ENGINEERING TECHNICIANS BY TYPE OF EMPLOYMENT AND SELECTED YEARS SINCE GRADUATION, 1979

TYPE OF EMPLOYMENT	YEARS SINCE GRADUATION - BASE YEAR 1979								
	1	5	7	9-11	15-17	18-20	21-23	27-29	35+
All Employment Sectors	(1,088) $10,750	(1,449) $12,950	(1,449) $13,950	(5,026) $15,200	(3,827) $16,950	(3,311) $17,500	(3,116) $17,900	(2,424) $18,300	(4,081) $18,450
All Industry	(264) 11,300	(976) 13,750	(954) 14,700	(3,292) 16,100	(2,307) 18,400	(2,013) 19,150	(1,880) 19,700	(1,656) 20,000	(2,744) 19,500
All Mfg. Industry	(309) 11,700	(475) 13,450	(481) 14,300	(1,765) 15,650	(1,325) 18,050	(1,107) 18,950	(1,053) 19,650	(960) 20,250	(1,498) 19,450
All Non-Mfg. Industry	(473) 11,750	(501) 14,200	(473) 15,300	(1,527) 16,800	(982) 18,700	(906) 19,250	(827) 19,500	(696) 19,700	(1,246) 19,650
All Government	(301) 9,800	(458) 11,300	(485) 12,050	(1,680) 13,100	(1,461) 14,800	(1,250) 15,350	(1,181) 15,750	(692) 16,000	(1,122) 15,800
Federal Government	(174) 10,900	(244) 13,000	(254) 14,050	(1,001) 15,500	(539) 17,650	(494) 18,250	(254) 18,550	(234) 18,450	(455) 17,650
State Government	(140) 9,150	(249) 10,450	(276) 11,100	(889) 12,100	(1,017) 13,850	(863) 14,500	(925) 15,000	(471) 15,350	(759) 14,450
Local Government	(10) 9,300	(8) 11,900	(11) 13,200	(61) 15,050	(53) 17,800	(60) 18,650	(52) 19,250	(51) 19,850	(66) 20,100
Education	(5) 10,750	(15) 12,100	(10) 12,800	(54) 13,750	(59) 15,300	(48) 15,850	(55) 16,200	(76) 16,550	(215) 16,250

SOURCE: Engineering Manpower Commission, Salaries of Engineering Technicians and Technologists, 1979

TABLE 106

NUMBER AND MEDIAN SALARIES OF ENGINEERING BACHELOR OF TECHNOLOGY GRADUATES BY TYPE OF EMPLOYMENT AND SELECTED YEARS SINCE GRADUATION, 1979

TYPE OF EMPLOYMENT	YEARS SINCE GRADUATION - BASE YEAR 1979								
	1	5	7	9-11	15-17	18-20	21-23	27-29	35+
All Employment Sectors	(203) $14,250	(148) $16,100	(141) $17,050	(389) $18,400	(228) $20,750	(195) $21,600	(147) $22,200	(165) $22,500	(152) $21,100
All Industry	(186) 14,350	(127) 16,400	(117) 17,400	(332) 18,900	(202) 21,300	(175) 22,100	(135) 22,600	(148) 22,700	(131) 21,100
All Mfg. Industry	(68) 14,050	(66) 16,200	(60) 17,250	(207) 18,800	(157) 21,350	(148) 22,150	(112) 22,650	(122) 22,550	(103) 20,600
All Non-Mfg. Industry	(118) 14,500	(61) 16,600	(57) 17,600	(125) 19,050	(45) 21,500	(27) 22,450	(23) 23,250	(26) 24,400	(28) 25,150
Miscellaneous Manufacturing	(6) 13,800	(10) 15,950	(10) 16,900	(19) 18,200	(17) 19,950	(9) 20,350	(13) 20,500	(12) 20,200	(22) 19,200
Electrical & Electronic Products	(35) 13,700	(35) 16,050	(37) 17,200	(142) 18,900	(126) 21,550	(130) 22,400	(91) 22,850	(98) 22,700	(68) 20,800
Research and Development	(53) 14,800	(10) 16,750	(16) 17,450	(19) 18,000	(8) 17,400	(8) 16,450	(4) -	(3) -	(4) -
All Utilities	(40) 14,000	(32) 16,650	(30) 17,950	(72) 19,850	(30) 23,200	(16) 24,550	(12) 25,650	(18) 27,150	(24) 28,100
All Government	(11) 13,500	(18) 13,750	(18) 13,850	(37) 14,050	(19) 14,600	(13) 14,900	(6) 15,200	(10) 16,000	(13) 18,100
Education	(6) 13,050	(3) -	(6) 14,700	(20) 15,650	(7) 17,650	(7) 18,750	(6) 19,900	(7) 22,400	(8) 27,200

FEDERAL SALARIES

On October 1, 1979, most federal employees and members of the armed forces received a 7% salary increase, although workers in the lower grades got 9.2% while those in the top grades got 5.5% or less. This annual federal pay raise is designed to keep employees of the federal government on par with their counterparts in private industry. At the top levels of the General Salary Schedule for federal workers, the increases are nonexistent, since federal career salaries are presently limited by law to $50,112.50. Table 107 presents the white-collar salary schedule in effect on October 1, 1979. Table 108 presents the schedule effective on October 1, 1978 for comparison.

Table 109 presents the number, median grade and average salary of federal white-collar workers in selected occupational series in all areas as of October 1978. Women continue to be paid less than men in nearly all the occupational series listed. In the engineering occupational series, differences range from a low of $4,236 in electrical engineering to a high of $10,921 in mining engineering. Overall, general engineers had the highest average salary - $33,074, followed by aerospace engineers at $33,038.

In the sciences, general physical scientists reported the highest average salary - $35,750, while the lowest was reported by the technicians, especially biological technicians at $13,402. Salaries in the health and medical areas show wide variation between medical officers at the top with an average salary of $43,013 and dental assistants at the bottom at $10,845. In the social sciences, those persons working in manpower research and analysis commanded the highest average salaries at $34,225 (Table 109).

Table 110 presents average annual salaries in private industry as compared with average salaries paid to federal workers by selected white-collar occupations as of March 1978. Table 111 presents a similar comparison with comparable jobs in both the public and private sectors.

SOURCE: U.S. Civil Service Commission.

TABLE 107

ANNUAL SALARIES OF FEDERAL WORKERS UNDER THE GENERAL SCHEDULE BY GRADE AND STEP LEVELS, OCTOBER 1, 1979

	1	2	3	4	5	6	7	8	9	10
GS- 1	$ 7,210	$ 7,450	$ 7,690	$ 7,930	$ 8,170	$ 8,410	$ 8,650	$ 8,890	$ 8,902	$ 9,126
2	8,128	8,399	8,670	8,902	9,002	9,267	9,532	9,797	10,062	10,327
3	8,952	9,250	9,548	9,846	10,144	10,442	10,740	11,038	11,336	11,634
4	10,049	10,384	10,719	11,054	11,389	11,724	12,059	12,394	12,729	13,064
5	11,243	11,618	11,993	12,368	12,743	13,118	13,493	13,868	14,243	14,618
6	12,531	12,949	13,367	13,785	14,203	14,621	15,039	15,457	15,875	16,293
7	13,925	14,389	14,853	15,317	15,781	16,245	16,709	17,173	17,637	18,101
8	15,423	15,937	16,451	16,965	17,479	17,993	18,507	19,021	19,535	20,049
9	17,035	17,603	18,171	18,739	19,307	19,875	20,443	21,011	21,579	22,147
10	18,760	19,385	20,010	20,635	21,260	21,885	22,510	23,135	23,760	24,385
11	20,611	21,298	21,985	22,672	23,359	24,046	24,733	25,420	26,107	26,794
12	24,703	25,526	26,349	27,172	27,995	28,818	29,641	30,464	31,287	32,110
13	29,375	30,354	31,333	32,312	33,291	34,270	35,249	36,228	37,207	38,186
14	34,713	35,870	37,027	38,184	39,341	40,498	41,655	42,812	43,969	45,126
15	40,832	42,193	43,554	44,915	46,276	47,637	48,998	50,359*	51,720*	53,031*
16	47,889	49,485	51,081*	52,677*	54,273*	55,869*	57,465*	59,061*	60,657*	
17	56,099*	57,969*	59,839*	61,709*	63,579*					
18	65,750*									

* The rate of basic pay for employees at these rates is limited by section 5308 of title 5 of the United States Code to the rate for level V of the Executive Schedule which, pursuant to Public Law 95-66, would be $50,112.50.

SOURCE: U.S. Civil Service Commission.

TABLE 108

ANNUAL SALARIES OF FEDERAL WORKERS UNDER THE GENERAL SCHEDULE BY GRADE AND STEP LEVELS, OCTOBER 1, 1978

	1	2	3	4	5	6	7	8	9	10
GS- 1	$ 6,561	$ 6,780	$ 6,999	$ 7,218	$ 7,437	$ 7,656	$ 7,875	$ 8,094	$ 8,313	$ 8,532
2	7,422	7,669	7,916	8,163	8,410	8,657	8,904	9,151	9,398	9,645
3	8,366	8,645	8,924	9,203	9,482	9,761	10,040	10,319	10,598	10,877
4	9,391	9,704	10,017	10,330	10,643	10,956	11,269	11,582	11,895	12,208
5	10,507	10,857	11,207	11,557	11,907	12,257	12,607	12,957	13,307	13,657
6	11,712	12,102	12,492	12,882	13,272	13,662	14,052	14,442	14,832	15,222
7	13,014	13,448	13,882	14,316	14,750	15,184	15,618	16,052	16,486	16,920
8	14,414	14,894	15,374	15,854	16,334	16,814	17,294	17,774	18,254	18,734
9	15,920	16,451	16,982	17,513	18,044	18,575	19,106	19,637	20,168	20,699
10	17,532	18,116	18,700	19,284	19,868	20,452	21,036	21,620	22,204	22,788
11	19,263	19,905	20,547	21,189	21,831	22,473	23,115	23,757	24,399	25,041
12	23,087	23,857	24,627	25,397	26,167	26,937	27,707	28,477	29,247	30,017
13	27,453	28,368	29,283	30,198	31,113	32,028	32,943	33,858	34,773	35,688
14	32,442	33,523	34,604	35,685	36,766	37,847	38,928	40,009	41,090	42,171
15	38,160	39,432	40,704	41,976	43,248	44,520	45,792	47,064	48,336*	49,608*
16	44,756	46,248	47,740*	49,232*	50,724*	52,216*	53,708*	55,200*	56,692*	
17	52,429*	54,177*	55,925*	57,673*	59,421*					
18	61,449*									

* The rate of basic pay for employees at these rates is limited by section 5308 of title 5 of the United States Code to the rate for level V of the Executive Schedule which, pursuant to Public Law 95-66, would remain $47,500.

SOURCE: U.S. Civil Service Commission, Unpublished Data, October 31, 1978.

TABLE 109

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL WHITE COLLAR WORKERS BY SEX, ALL AREAS, OCTOBER 1978

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE	
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary
General Engineering	17,195	13	$33,074	17,039	$33,159	156	$23,826
Engineering Technician	26,254	9	18,617	24,816	18,968	1,438	12,555
Safety Engineering	644	12	27,722	636	27,784	8	22,793
Fire Prevent Engineering	117	13	28,998	115	29,166	2	19,317
Materials Engineering	902	13	31,628	884	31,800	18	23,200
Landscape Architecture	638	12	25,436	598	25,818	40	19,716
Architecture	1,645	12	26,215	1,566	26,386	79	22,810
Construction Control	4,019	9	17,910	3,986	17,957	33	12,189
Civil Engineering	15,706	12	27,266	15,515	27,361	193	19,659
Surveying Technician	2,773	4	11,449	2,554	11,688	219	8,661
Engineering Drafting	2,329	5	12,671	1,870	12,906	459	11,712
Sanitary Engineering	1,390	12	25,019	1,356	25,170	34	18,986
Construction Analyst	1,051	11	23,658	1,025	23,805	26	17,861
Mechanical Engineering	10,106	12	27,128	10,043	27,128	63	21,126
Nuclear Engineering	2,289	13	31,917	2,266	32,006	23	23,165
Electrical Engineering	4,587	12	26,505	4,543	26,546	44	22,310
Electronics Engineering	19,801	12	29,443	19,644	29,489	157	23,706
Electronics Technician	23,834	11	22,646	23,586	22,735	248	14,181
Aerospace Engineering	8,147	13	33,038	8,042	33,136	105	25,456
Naval Architecture	1,060	12	29,373	1,049	29,442	11	22,745
Mining Engineering	502	13	29,383	497	29,492	5	18,571
Petroleum Engineering	387	13	29,731	385	29,776	2	21,097
Agricultural Engineering	443	11	26,067	441	26,108	2	16,920
Ceramic Engineering	48	13	32,860	47	33,067	1	23,115
Chemical Engineering	1,465	12	28,730	1,434	28,875	31	22,007
Welding Engineering	87	12	25,995	85	26,182	2	18,050
Industrial Engr. Tech.	2,586	9	19,573	2,429	19,855	157	15,205
Industrial Engineering	2,474	12	27,006	2,455	27,052	19	21,029
Engr. Architecture	1,104	4	23,714	1,078	23,855	26	17,861
Biomedical Engineering	154	12	23,130	147	23,331	7	18,917
Ship Surveying	53	12	24,836	53	24,836	--	--

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

SOURCE: U. S. Civil Service Commission, Unpublished Data, October 31, 1978

TABLE 109 (Continued)

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL WHITE COLLAR WORKERS BY SEX, ALL AREAS, OCTOBER 1978

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE	
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary
General Physical Science	4,575	14	$35,750	4,339	$36,364	236	$24,468
Health Physics	492	13	28,785	468	29,023	24	24,137
Physics	4,969	13	31,521	4,835	31,685	134	25,603
Physical Science Tech.	4,095	7	15,090	3,234	15,741	861	12,647
Geophysics	519	12	28,632	505	28,905	14	18,781
Hydrology	1,895	12	27,117	1,851	27,317	44	18,697
Chemistry	8,256	12	26,952	6,890	27,864	1,366	22,349
Metallurgy	570	12	29,810	560	29,886	10	25,531
Astronomy and Space Sci.	533	13	34,715	510	35,009	23	28,201
Meteorology	2,155	12	28,565	2,109	28,728	46	21,086
Meteorological Technician	2,497	10	18,986	2,316	19,321	181	14,708
Geology	2,352	12	27,429	2,162	27,995	190	20,996
Oceanography	776	12	26,160	728	26,628	48	19,068
Cartography	3,097	11	23,535	2,785	23,968	312	19,669
Cartographic Technician	2,854	9	16,699	2,162	17,356	692	14,645
Geodesy	294	12	26,673	273	27,111	21	20,977
Food Technology	181	12	27,677	150	29,007	31	21,243
Forest Products Technology	125	13	30,408	122	30,674	3	19,587
General Fish & Wildlife Admin.	191	14	35,482	186	36,046	5	14,500
Gen. Biological Science	3,903	12	25,524	3,271	26,490	632	20,522
Microbiology	1,719	12	25,291	1,164	27,204	555	21,279
Biological Technician	5,938	6	13,402	4,073	13,745	1,865	12,653
Zoology	106	13	29,465	94	30,230	12	23,470
Entomology	764	13	28,637	740	28,865	24	21,605
Botany	149	12	24,246	113	25,586	36	20,041
Plant Pathology	320	13	31,130	307	31,573	13	20,661
Plant Physiology	264	13	29,468	249	29,908	15	22,165
Horticulture	88	12	26,062	81	26,923	7	16,101
Soil Conservation	4,490	11	22,072	4,446	22,151	44	14,108
Soil Science	1,862	11	22,754	1,822	22,919	40	15,206
Agronomy	328	12	27,799	327	27,835	1	15,920
Agriculture Management	3,034	11	21,033	2,968	21,172	66	14,791
Agricultural Extension	68	14	39,624	54	40,197	14	37,413
Range Conservation	1,094	9	19,168	1,059	19,351	35	13,606
Forestry	5,775	11	23,922	5,720	24,014	55	14,383
Fishery Biology	1,271	11	23,471	1,200	23,911	71	16,036
Wildlife Biology	1,056	11	22,378	1,002	22,658	54	17,169

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

SOURCE: U.S. Civil Service Commission, Unpublished Data, October 31, 1978.

TABLE 109 (Continued)

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL WHITE COLLAR WORKERS BY SEX, ALL AREAS, OCTOBER 1978

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE	
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary
Medical Officer	8,837	15	$43,013	7,634	$43,267	1,203	$41,404
Physicians Assistant	640	9	17,362	420	17,767	220	16,588
Nurse	34,438	9	17,781	2,204	16,631	32,234	17,859
General Health Science	1,086	13	29,940	725	32,118	361	25,565
Medical Technologist	4,141	7	15,927	1,346	16,172	2,795	15,809
Medical Technician	2,854	6	13,357	1,338	13,829	1,516	12,941
Medical Radiology Tech.	2,660	6	13,508	1,583	14,082	1,077	12,665
Dental Officer	959	14	38,978	944	39,142	15	28,686
Dental Assistant	2,849	4	10,845	216	11,151	2,633	10,820
Dental Hygiene	355	5	12,087	8	11,646	347	12,097
Dietitian	1,185	9	20,299	31	22,950	1,154	20,228
Occupational Therapist	680	9	17,572	96	17,924	584	17,514
Physicial Therapist	744	9	17,940	284	18,946	460	17,319
Optometrist	63	12	26,539	63	26,539	--	--
Podiatrist	47	13	31,856	44	32,003	3	29,700
Pharmacist	2,158	11	21,549	1,793	21,938	365	19,640
Pharmacology	363	13	30,482	298	31,285	65	26,802
Physiology	393	13	28,939	331	29,870	62	23,966
Genetics	239	13	30,490	218	31,234	21	22,761
Veterinary Med. Science	2,301	12	28,722	2,238	28,833	63	24,788
Industrial Hygiene	744	11	21,868	629	22,789	115	16,826
Hospital Administration	577	14	33,788	501	35,551	76	22,168

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

SOURCE: U.S. Civil Service Commission, Unpublished Data, October 31, 1978.

TABLE 109 (Continued)

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL WHITE COLLAR WORKERS BY SEX, ALL AREAS, OCTOBER 1978

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE	
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary
Economics	5,763	13	$28,779	4,904	$29,660	859	$23,752
Psychology	3,186	13	29,031	2,676	29,793	510	25,032
Social Science	2,896	12	27,343	1,881	28,949	1,015	24,365
Social Work	3,374	11	22,805	1,911	23,330	1,463	22,120
Sociology	104	12	25,394	64	27,262	40	22,405
Foreign Affairs	2,425	13	31,152	2,083	32,071	342	25,556
International Relations	79	14	33,559	60	36,188	19	25,259
Manpower Res. & Analysis	87	14	34,225	62	36,191	25	29,351
Geography	174	11	24,239	137	25,277	37	20,397
History	520	12	26,490	430	27,448	90	21,911
General Anthropology	52	13	32,557	43	33,547	9	27,827
Archeology	347	9	18,469	252	19,678	95	15,263
Secretary	63,296	6	13,505	416	13,410	62,880	13,505
Digital Computer Systems Admin.	1,635	13	32,300	1,440	33,480	195	23,588
Computer Operation	11,197	7	14,859	6,741	15,803	4,456	13,430
Computer Specialist	26,649	12	25,089	21,266	25,874	5,383	21,986
Computer Aid & Technician	2,257	5	17,231	1,010	18,425	1,247	16,265
Program Management	3,645	15	39,742	3,429	40,076	216	34,443
Management Analysis	11,143	12	24,758	8,032	26,250	3,111	20,905
Communications Management	2,288	11	24,520	2,159	24,805	129	19,754
Program Analysis	10,757	12	27,908	7,638	30,057	3,119	22,643
Communications Specialist	2,253	11	23,137	2,019	23,770	234	17,672
Operations Research	3,184	13	31,864	2,932	32,473	252	24,775
Mathematics	3,968	12	27,207	3,192	28,087	776	23,589
Mathematics Technician	200	6	14,355	79	14,610	121	14,188
Mathematical Statistician	1,100	12	26,888	871	28,022	229	22,572
Statistician	2,802	12	26,346	2,106	27,667	696	22,350
Statistical Assistant	85	6	24,132	24	25,709	61	23,512
Actuary	119	13	29,099	101	29,646	18	26,032
Accounting	22,927	12	25,219	20,377	25,862	2,550	20,082
General Attorney	15,532	13	31,746	13,035	32,581	2,497	27,388

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

SOURCE: U.S. Department of Labor, National Survey of Professional, Administrative, Technical and Clerical Pay, March 1978.

TABLE 110

COMPARISON OF AVERAGE ANNUAL SALARIES IN PRIVATE INDUSTRY WITH SALARY RATES FOR FEDERAL EMPLOYEES UNDER THE GENERAL SCHEDULE, MARCH 1978

OCCUPATION AND LEVEL*	Average salaries in private industry	Grade	SALARY RATES UNDER THE GENERAL SCHEDULE										
			1	2	3	4	5	6	7	8	9	10	Average salary**
Accountants I	$12,785	GS-5	$9,959	$10,291	$10,623	$10,955	$11,287	$11,619	$11,951	$12,283	$12,615	$12,947	$11,321
Chemists I	13,492												
Engineers I	15,928												
Eng. technicians III	14,062												
Drafters II	13,709												
Accountants II	15,671	GS-7	12,336	12,747	13,158	13,569	13,980	14,391	14,802	15,213	15,624	16,035	13,946
Chemists II	16,337												
Engineers II	17,567												
Eng. technicians IV	16,302												
Drafters III	16,902												
Accountants III	18,115	GS-9	15,090	15,593	16,096	16,599	17,102	17,605	18,108	18,611	19,114	19,617	16,924
Attorneys I	17,693												
Chemists III	19,453												
Engineers III	20,194												
Eng. technicians V	18,703												
Accountants IV	22,036	GS-11	18,258	18,867	19,476	20,085	20,694	21,303	21,912	22,521	23,130	23,739	20,563
Attorneys II	21,713												
Chemists IV	23,532												
Chief accountants I	23,561												
Engineers IV	23,972												
Accountants V	27,301	GS-12	21,883	22,612	23,341	24,070	24,799	25,528	26,257	26,986	27,715	28,444	24,762
Attorneys III	27,738												
Chemists V	28,494												
Chief accountants	27,769												
Engineers V	28,001												
Attorneys IV	33,547	GS-13	26,022	26,889	27,756	28,623	29,490	30,357	31,224	32,091	32,958	33,825	29,755
Chemists VI	33,110												
Chief accountants III	34,160												
Engineers VI	32,264												
Attorneys V	42,318	GS-14	30,750	31,775	32,800	33,825	34,850	35,875	36,900	37,925	38,950	39,975	35,087
Chemists VII	38,927												
Chief accountants IV	39,895												
Engineers VII	36,520												
Attorneys VI	51,798	GS-15	36,171	37,377	38,583	39,789	40,995	42,201	43,407	44,613	45,819	47,025	41,800
Chemists VIII	47,156												
Engineers VIII	42,104												

* See Original Survey for definition of levels.

** Mean salary of all general schedule employees in each grade as of March 31, 1978.

SOURCE: Federal Salaries, U.S. Civil Service Commission; Private Salaries, U.S. Department of Labor.

TABLE 111

COMPARISON OF FEDERAL AND PRIVATE AVERAGE SALARIES IN SELECTED JOBS, 1978

OCCUPATION	Oct. 1, 1978 Federal Salaries	Salaries for Comparable Job in Industry 1979
Top Career Official	$47,500	*
Engineer (near top)	44,099	$42,104
Lawyer (near top)	44,099	51,798
Chief Chemist	44,099	47,156
Chief Accountant	37,017	39,895
Personnel Director	31,392	32,201
Buyer (experienced)	21,694	23,853
Accountant (medium experience)	17,855	18,115
Lawyer (beginning)	17,855	17,693
Computer Operator (experienced)	16,719	15,691
Secretary (experienced)	16,719	14,430
Secretary (medium experience)	11,944	10,721
Engineer (beginning)	11,944	15,928
Senior Stenographer	10,463	11,018
Junior Drafter	10,463	11,247
General Stenographer	8,993	9,834
Typist (experienced)	8,993	9,276
Accounting Clerk (beginning)	8,993	8,682
Typist (beginning)	7,648	7,778
File Clerk (beginning)	6,757	6,621

*Salaries vary too widely for an average salary to be computed.

ACADEMIC SALARIES

- The annual salary survey of the *American Association of University Professors* reports that salaries for faculty members increased by 6.0% from 1977-78 to 1978-79, while the Consumer Price Index rose by 9.4% during that period. Thus, average salaries expressed in real dollars declined by 3.1%. The largest declines were experienced by full professors with a 3.5% drop. However, despite this gloomy news, two bright spots appear in the 1978-79 survey results. One is the larger overall percentage increase of 7.4% for faculty and staff in both 1978-79 and 1977-78. The other is the sizeable increase in fringe benefits from 15.7% to 17.5% of average salaries.

Table 112 presents average salaries of faculty by rank, category of institution, type of institutional affiliation and sex for 1978-79. Women consistently earn less than their male counterparts. The only exception was reported at the instructor level in church-related two-year institutions.

Faculty in the North Eastern states reported the highest average compensation, followed by those in the North Central states (Table 113). Total faculty salaries by geographic area and rank are presented in Table 114.

Average salary of full-time faculty members in 1978-79 was reported as $20,120; average fringe benefits as $3,530 and average compensation as $23,650 (Table 115).

Faculty in preclinical departments of medical schools in private independent colleges and universities get the highest salaries and the faculty members at these institutions report the highest compensation (Table 116). Average salary, average fringe benefits and average compensation of faculty in preclinical departments of medical schools by rank are presented in Table 117.

- Salary increases for college and university faculty did not keep up with the rate of inflation for the 1978-79 academic year, according to preliminary data released by the *National Center for Education Statistics*. The average salary for faculty with 9-month contracts increased 6.2% over the average for 1977-78, while the rate of inflation is estimated by NCES to be 8.3% over the same period.

Increases for women were smaller than those for men. Female faculty (all ranks combined) on 9-month contracts received an average increase of 5.6% while male faculty salaries increased 6.4%. Women received lower salaries at every rank and in every type of institution (Table 118). However, female faculty with 12-month contracts enjoyed a 7.6% salary boost compared to 7.0% for men. Faculty with 12-month contracts represent only 14% of full-time instructional faculty (Table 119). Table 120 presents the average salary of all faculty by length of contract, institutional control and academic rank for 1977-78 and 1978-79.

By state or U.S. territory, the Canal Zone paid the highest mean salaries to full-time instructional faculty members in public higher education institutions in 1977-78 - $27,772 to men and $23,537 to women. California led all states in faculty salaries - $23,134 to men and $20,843 to women. At the bottom of the state list, Mississippi paid the least to male faculty ($16,539), while South Carolina paid women faculty members the least ($13,119) (Table 121). In private higher education institutions, The District of Columbia paid the highest faculty salaries to both men and women - $21,104 to men and $16,991 to women, while Kansas paid the lowest to men - $13,007 - and Mississippi the least to women - $10,618 (Table 122).

- The *National Science Foundation* reports that the median annual salary of doctoral scientists and engineers who are university or four-year college teachers was

$18,800 on an academic year basis in 1977. Engineering doctorate faculty had the highest median academic year salaries, $21,300, followed by economists at $20,600. Doctorate biological scientists who are teachers had the lowest median salaries - $17,900 (Table 123). Further discussion of this NSF survey is on page 22.

- Many faculty members are being paid an average 21% over their reported base salaries, according to *FACULTY COMPENSATION: TOTAL UNIVERSITY EARNINGS AT RESEARCH UNIVERSITIES*, prepared by the *University of Southern California*. Data on 3,718 faculty members with 9-month contracts showed that seven in every ten had additional university income, ranging from 1% to 56% of their base salaries. Biology faculty reported the highest extra earnings from research, while business faculty reported the highest earnings from teaching during the summer (Table 124).

- The 1978 average annual salary of full-time faculty in U.S. Departments of Psychology is $28,340 for full professors who have been in rank at least three years, and $23,845 for those who have been full professors less than three years, according to the *1978 SURVEY OF GRADUATE DEPARTMENTS OF PSYCHOLOGY* conducted by the *American Psychological Association*. Average salaries for lecturers who have been in rank less than three years is $13,907, while those lecturers in psychology who have been in rank at least three years earn $15,429 (Table 128).

Salaries are higher at every rank except lecturer/instructor in doctoral departments of psychology located in the northeast, (Table 125), as well as in all master's departments of psychology, with the exception of the instructor/lecturer rank (Table 126).

Salaries of full-time faculty in graduate departments of psychology by type of department and rank for 1978 are presented in Table 127. Faculty employed in a professional school generally earned the highest salaries.

- Doctoral chemists who are employed by private universities as full professors earn $30,000 compared to $23,000 paid to all doctoral chemists and chemical engineers who are employed in academic institutions. Private colleges generally pay less than public to both their doctoral faculty members and all their other doctoral employees. Table 129 presents salaries of chemists in academic institutions as compiled by the *American Chemical Society*.

- The 22nd annual salary survey by the *American Mathematical Society* is based on returns from 786 departments in the mathematical sciences. Table 130 presents salary ranges for doctoral degree mathematics teachers by rank and type of institution, while Table 131 shows the comparable data for non-doctoral mathematics teachers. The total number of faculty increased modestly between 1977-78 and 1978-79. The proportion of doctorate faculty in these mathematics departments who were women in 1978-79 was only 6.6% although women earned 9.6% of the doctorates in mathematics during the 1970's.

- For the second consecutive year, the cost of living outstripped income gains made by faculty in colleges of pharmacy, according to the *1978-79 ANNUAL SURVEY OF FACULTY SALARIES* by the *American Association of Colleges of Pharmacy*. Professors on pharmacy faculties had an average salary of $33,557, associate professors, $26,310, and assistant professors $21,882 on a calendar year basis (Table 132). For those on a academic year basis, the averages were $26,804, $22,469 and $19,006 respectively.

By discipline, pharmacognosy professors earned the highest salary - $34,448, while hospital pharmacy paid most to associate professors ($30,120) and assistant professors ($23,380) (Table 133).

- The *Engineering Manpower Commission of Engineers Joint Council*, as part of its collection of data for the professional income of engineers survey, compiled data on the *SALARIES OF ENGINEERS IN EDUCATION* for 1978. The 288 educational institutions that provided data covered 13,793 engineering graduates. Tables 134 and 135 present salaries of engineering faculty by rank and selected years since baccalaureate for those on nine and 12-month contracts respectively.

Engineering faculty employed in engineering schools offering the Ph.D. program generally commanded higher salaries than faculty employed in engineering schools with non-Ph.D. programs and in technical schools (Table 136).

- Data collected by the *College and University Personnel Association* for its *1978-79 ADMINISTRATIVE COMPENSATION SURVEY* show that salaries of academic administrators vary substantially for the same position in public and private institutions. In general, private institutions pay less than public ones, and some academic deans lead the salary figures at both private and public institutions. Leading the salary list is the dean of medicine at private institutions with an average salary of $70,000 compared to $37,500 for the chief executive of a single institution in the private sector. Comparable figures for public institutions are $62,500 and $41,500. Additionally, in the private institutions, the deans of architecture ($39,500), engineering ($39,000) and law ($48,000), all exceed the $37,500 median salary for the chief executive (Table 137).

- The *National Education Association* collects data on average annual salaries of elementary and secondary public school teachers by state. For the 1978-79 academic year, salaries ranged from a high in Alaska of $24,150 to a low in Arkansas of $11,126 (Table 138).

SOURCE: American Association of University Professors, An Era of Continuing Decline: Annual Report on the Economic Status of the Profession, 1978-79.

TABLE 112

WEIGHTED AVERAGE SALARIES OF FACULTY BY ACADEMIC RANK, CATEGORY[1], TYPE OF AFFILIATION AND SEX, 1978-79

ACADEMIC RANK	ALL COMBINED		PUBLIC		PRIVATE INDEPENDENT		CHURCH-RELATED	
	Men	Women as % of Men's	Men	Women as % of Men's	Men	Women as % of Men's	Men	Women as % of Men's
CATEGORY I								
Professor	$28,770	91.1%	$28,190	92.4%	$31,270	88.4%	$26,860	86.8%
Assoc. Prof.	21,270	95.4	21,200	96.0	21,840	93.5	20,700	91.3
Ass't. Prof.	17,380	94.7	17,360	94.7	17,510	96.3	17,210	91.4
Instructor	13,960	95.3	13,910	95.3	14,200	97.6	14,000	95.7
Lecturer	16,150	88.7	16,310	88.7	15,330	92.8	14,450	87.0
All Ranks	23,190	76.7	22,850	76.7	25,060	74.6	21,470	77.2
CATEGORY II-A								
Professor	24,650	97.0	25,100	97.6	24,880	90.9	21,110	92.4
Assoc. Prof.	19,870	96.1	20,160	97.4	19,680	92.5	18,000	90.6
Ass't. Prof.	16,500	96.0	16,750	97.0	16,200	93.2	15,290	91.8
Instructor	13,440	96.4	13,730	96.6	12,760	97.1	12,280	94.0
Lecturer	13,980	92.7	13,870	92.2	13,360	*	16,100	82.5
All Ranks	20,070	84.7	20,420	85.6	19,840	81.8	17,920	80.5
CATEGORY II-B								
Professor	21,650	96.3	23,300	95.4	23,180	98.8	19,780	93.6
Assoc. Prof.	17,460	94.8	19,260	95.2	17,760	96.5	16,330	94.1
Ass't. Prof.	14,750	95.0	16,090	96.2	14,830	95.6	14,000	95.2
Instructor	12,330	94.5	13,400	94.0	12,310	95.5	11,690	95.5
Lecturer	14,990	84.7	14,990	92.7	16,380	76.4	13,610	71.9
All Ranks	17,280	84.3	18,390	85.6	18,140	84.5	16,120	84.4
CATEGORY III								
Professor	23,000	100.1	23,380	99.3	18,040	87.1	14,120	*
Assoc. Prof.	19,690	98.8	19,900	99.1	16,330	92.8	14,230	*
Ass't. Prof.	16,710	97.1	16,900	97.1	13,570	98.3	12,170	*
Instructor	15,130	91.1	15,380	92.2	11,300	95.2	9,320	105.2
Lecturer	13,960	89.0	13,960	91.4	---	---	---	---
All Ranks	18,240	90.3	18,470	91.0	14,280	85.4	12,810	92.0
CATEGORY IV								
No Rank	18,600	90.3	18,990	90.4	14,420	---	12,200	92.3

[1] Category I - includes institutions which offer the doctorate degree, and which conferred in the most recent three years an annual average of fifteen or more earned doctorates covering a minimum of three nonrelated disciplines; Category II-A - includes institutions awarding degrees above the baccalaureate but not included in Category I; Category II-B - includes institutions awarding only the baccalaureate or equivalent degree; Category III - includes two-year institutions with academic rank; and Category IV - includes institutions without academic ranks.

* Sample too small to be meaningful.

SOURCE: American Association of University Professors, An Era of Continuing Decline: Annual Report on the Economic Status of the Profession, 1978-79.

TABLE 113

WEIGHTED AVERAGE FACULTY COMPENSATION BY ACADEMIC RANK, CATEGORY[1], AND GEOGRAPHIC REGION, 1978-79

(Standard Academic Year Basis)

ACADEMIC RANK	WEST		NORTH CENTRAL		NORTH EAST		SOUTH		
	Pacific	Mountain	West North Central	East North Central	Middle Atlantic	New England	West South Central	East South Central	South Atlantic
CATEGORY I									
Professor	$35,860	$30,560	$30,940	$33,450	$36,970	$35,830	$36,440	$29,470	$31,820
Assoc. Prof.	25,620	23,770	23,700	25,200	26,760	24,330	26,170	23,110	23,750
Ass't. Prof.	21,070	19,870	19,660	20,590	20,680	19,480	20,460	18,840	19,440
Instructor	17,420	16,370	15,460	16,190	16,470	16,350	17,060	14,740	15,490
All Ranks	28,670	24,700	24,760	26,440	28,290	27,370	25,880	23,060	24,260
CATEGORY II-A									
Professor	31,280	27,870	25,680	28,440	31,800	28,150	26,200	25,550	26,570
Assoc. Prof.	24,410	22,660	21,510	23,630	25,520	22,300	22,390	21,420	21,800
Ass't. Prof	19,960	18,530	18,310	19,700	20,540	18,290	18,910	18,060	18,220
Instructor	16,060	15,480	14,910	16,390	16,370	15,180	15,160	14,770	14,990
All Ranks	26,020	22,470	20,590	22,930	24,980	21,800	21,000	20,020	20,740
CATEGORY II-B									
Professor	27,750	26,020	23,820	25,760	27,970	28,160	21,180	20,460	24,000
Assoc. Prof.	22,290	20,780	19,180	20,470	22,020	20,750	18,260	17,120	19,510
Ass't. Prof.	18,870	17,750	16,340	16,870	17,550	17,180	16,210	14,540	16,470
Instructor	16,230	15,100	13,890	13,920	14,260	13,880	13,050	12,240	13,560
All Ranks	22,280	20,150	18,210	20,030	20,860	20,610	17,170	16,340	18,450
CATEGORY III									
Professor	*	23,950	17,740	27,510	29,670	22,870	22,320	20,470	25,950
Assoc. Prof.	*	20,990	19,820	24,170	24,730	20,780	20,510	18,480	21,440
Ass't. Prof.	*	18,220	17,600	20,760	20,890	18,040	18,230	16,430	17,300
Instructor	*	17,020	16,060	17,680	16,330	14,560	15,670	14,700	16,000
All Ranks	25,410	18,620	17,460	21,520	22,610	19,110	18,500	16,600	18,640
CATEGORY IV									
No Rank	25,560	19,980	17,580	21,850	17,250	15,000	17,330	15,660	16,470
ALL CATEGORIES EXCEPT IV									
Professor	33,040	29,930	34,140	31,380	33,650	31,960	28,260	27,030	29,160
Assoc. Prof.	24,870	23,250	22,020	24,020	25,290	22,740	22,750	21,500	22,290
Ass't. Prof.	20,480	19,360	18,270	19,820	20,090	18,470	18,960	17,820	18,260
Instructor	19,200	16,200	14,840	16,250	15,980	15,010	15,080	14,420	15,170
All Ranks	26,930	23,800	23,600	24,300	25,210	23,610	21,890	25,060	21,640

[1] Category I - includes institutions which offer the doctorate degree, and which conferred in the most recent three years an annual average of fifteen or more earned doctorates covering a minimum of three nonrelated disciplines; Category II-A - includes institutions awarding degrees above the baccalaureate but not included in Category I; Category II-B - includes institutions awarding only the baccalaureate or equivalent degree; Category III - includes two-year institutions; and Category IV - includes institutions without academic ranks.

* Sample too small to be meaningful.

Note: Figure for all ranks includes lecturers.

SOURCE: American Association of University Professors, An Era of Continuing Decline: Annual Report on the Economic Status of the Profession, 1978-79.

TABLE 114

WEIGHTED AVERAGE FACULTY SALARIES BY REGION, CATEGORY[1], AND ACADEMIC RANK, 1978-79

ACADEMIC RANK	WEST		NORTH CENTRAL		NORTH EAST		SOUTH		
	Pacific	Mountain	West North Central	East North Central	Middle Atlantic	New England	West South Central	East South Central	South Atlantic
CATEGORY I									
Professor	$29,740	$26,790	$27,080	$28,370	$31,190	$30,930	$31,380	$26,350	$28,530
Assoc. Prof.	21,140	20,560	20,660	21,260	22,540	21,150	22,190	20,420	21,150
Ass't. Prof.	17,280	16,990	16,930	17,330	17,460	16,870	17,110	16,610	17,230
Instructor	15,010	13,960	13,090	13,720	14,030	14,310	14,180	13,000	13,590
All Ranks	23,680	21,430	21,540	22,360	23,860	23,690	21,960	20,460	21,610
CATEGORY II-A									
Professor	25,540	24,300	22,820	20,070	26,770	24,760	22,690	22,560	23,580
Assoc. Prof.	19,830	19,650	18,900	19,740	21,360	19,470	19,170	18,790	19,260
Ass't. Prof.	16,190	16,120	16,030	16,380	17,170	16,190	16,160	15,850	16,050
Instructor	13,360	13,420	13,120	13,570	13,660	13,470	13,060	12,950	13,120
All Ranks	21,200	19,540	18,140	19,190	20,930	19,180	18,030	17,590	18,310
CATEGORY II-B									
Professor	23,570	22,230	20,530	21,490	23,510	23,900	18,570	17,720	20,980
Assoc. Prof.	18,790	17,820	16,580	17,230	18,620	17,750	16,040	14,830	17,140
Ass't. Prof.	16,120	15,220	14,310	14,410	14,920	14,770	14,370	12,840	14,420
Instructor	13,870	12,850	12,290	12,200	12,240	12,210	11,700	10,900	11,960
All Ranks	18,910	17,250	15,860	16,930	17,650	17,640	15,170	14,280	16,150
CATEGORY III									
Professor	*	20,490	15,450	23,760	24,670	20,630	19,610	17,690	23,140
Assoc. Prof.	*	17,810	16,650	20,790	20,520	18,330	17,920	15,900	19,050
Ass't. Prof.	*	15,490	14,860	17,750	17,230	15,810	15,910	14,310	15,440
Instructor	*	14,330	13,720	14,960	13,420	12,770	13,660	12,780	14,350
All Ranks	21,870	15,750	14,820	18,420	18,710	16,880	16,160	14,390	16,640
CATEGORY IV									
No Rank	21,880	17,170	15,460	18,690	14,680	13,330	15,320	14,440	14,650
ALL CATEGORIES EXCEPT IV									
Professor	27,230	26,180	24,840	26,570	28,330	27,740	24,420	24,000	26,000
Assoc. Prof.	20,400	20,090	19,210	20,230	21,220	19,800	19,370	18,890	19,750
Ass't. Prof.	16,770	16,600	15,890	16,690	16,850	16,150	16,170	15,680	16,130
Instructor	16,360	13,800	12,910	13,750	13,400	13,240	13,040	12,670	13,420
All Ranks	22,160	20,620	19,100	20,520	21,180	20,560	18,750	18,220	19,190

[1] Category I - includes institutions which offer the doctorate degree, and which conferred in the most recent three years an annual average of fifteen or more earned doctorates covering a minimum of three nonrelated disciplines; Category II-A - includes institutions awarding degrees above the baccalaureate but not included in Category I; Category II-B - includes institutions awarding only the baccalaureate or equivalent degree; Category III - includes two-year institutions with academic ranks; and Category IV - includes institutions without academic ranks.

* Sample too small to be meaningful.

Note: Figure for all ranks includes lecturers.

SOURCE: American Association of University Professors, An Era of Continuing Decline: Annual Report on the Economic Status of the Profession, 1978-79.

TABLE 115

AVERAGE SALARY, FRINGE BENEFITS AND COMPENSATION OF FULL-TIME FACULTY MEMBERS IN INSTITUTIONS OF HIGHER EDUCATION BY RANK, 1978-79

ACADEMIC RANK	Average Salary	Average Fringe Benefits	Average Compensation	Fringe Benefits (As a % of Average) Salary	Fringe Benefits (As a % of Average) Compensation
Professor	$26,470	$4,920	$31,390	18.6%	15.7%
Associate Professor	20,020	3,400	23,420	17.0	14.5
Assistant Professor	16,370	2,760	19,130	16.9	14.4
Instructor	13,420	2,120	15,540	15.8	13.6
Lecturer	14,890	2,940	17,830	19.7	16.5
All Ranks	20,120	3,530	23,650	17.5	14.9

TABLE 116

WEIGHTED AVERAGE FACULTY SALARIES AND COMPENSATION IN PRECLINICAL DEPARTMENTS OF MEDICAL SCHOOLS BY TYPE OF AFFILIATION AND ACADEMIC RANK, 1978-79[1]

(12-MONTH BASIS)

ACADEMIC RANK	ALL COMBINED		PUBLIC		PRIVATE INDEPENDENT		CHURCH-RELATED	
	Salary	Compensation	Salary	Compensation	Salary	Compensation	Salary	Compensation
Professor	$38,410	$44,470	$37,350	$42,690	$40,840	$48,420	$30,530	$33,160
Associate Professor	29,110	33,480	28,740	32,960	30,210	35,030	26,140	29,400
Assistant Professor	23,310	27,000	23,310	27,050	23,420	27,150	22,230	24,970
Instructor	18,600	21,700	18,570	21,600	18,750	21,960	17,000	19,350
All Ranks	29,390	33,980	29,290	33,660	29,980	35,090	24,990	27,880

TABLE 117

AVERAGE SALARY, FRINGE BENEFITS AND COMPENSATION OF FULL TIME FACULTY MEMBERS IN PRECLINICAL DEPARTMENTS OF MEDICAL SCHOOLS BY ACADEMIC RANK, 1978-79

ACADEMIC RANK	Average Salary	Average Fringe Benefits	Average Compensation	Fringe Benefits (As a % of Average) Salary	Fringe Benefits (As a % of Average) Compensation
Professor	$38,410	$6,060	$44,470	15.8%	13.6%
Associate Professor	29,110	4,370	33,480	15.0	13.1
Assistant Professor	23,310	3,690	27,000	15.8	13.7
Instructor	18,600	3,100	21,700	16.7	14.3
All Ranks	29,390	4,590	33,980	15.6	13.5

[1] Sample includes 77 institutions (26 Private, 47 Public, and 4 Church-Related)..

SOURCE: Preliminary Data, National Center for Education Statistics, February 27, 1979.

TABLE 118

NUMBER AND AVERAGE SALARY OF FULL-TIME INSTRUCTIONAL FACULTY IN HIGHER EDUCATION ON 9-MONTH CONTRACTS BY TYPE OF INSTITUTION, RANK AND SEX, 1978-79

RANK AND SEX	TOTAL		% Change from 1977-78	TYPE OF INSTITUTIONS		
	No. of Faculty	Salary		Univ.	4-year Colleges	2-year Colleges
All Ranks	224,230	$19,266	+6.2%	$21,723	$18,499	$18,297
Men	164,618	20,208	+6.4	22,690	19,308	19,083
Women	59,612	16,667	+5.6	17,544	16,220	16,890
Professors	52,070	25,593	+5.3	28,334	24,023	22,510
Men	46,617	25,845	+5.3	28,479	24,191	22,610
Women	5,453	23,445	+5.3	26,004	22,842	22,196
Associate Professors	54,998	19,585	+5.5	20,796	18,984	19,742
Men	44,502	19,768	+5.6	20,919	19,165	19,914
Women	10,496	18,811	+5.4	20,085	18,241	19,331
Assistant Professors	59,589	16,112	+5.5	16,802	15,719	16,646
Men	39,679	16,355	+5.6	17,011	15,960	16,907
Women	19,910	15,629	+5.4	16,303	15,253	16,233
Instructors	19,728	13,109	+5.4	13,438	12,791	13,688
Men	9,458	13,379	+5.6	13,667	13,053	13,981
Women	10,270	12,859	+5.3	13,236	12,554	13,394
Lecturers	2,524	14,123	+4.0	14,827	13,464	13,001
Men	1,386	14,865	+3.7	15,579	14,121	13,826
Women	1,138	13,219	+4.7	13,848	12,687	12,256
No Academic Rank	35,321	18,570	+6.7	18,874	14,753	18,764
Men	22,976	19,410	+7.5	20,474	15,371	19,619
Women	12,345	17,009	+5.1	15,794	13,492	17,179

SOURCE: Preliminary Data, National Center for Education Statistics, February 27, 1979.

TABLE 119

NUMBER AND AVERAGE SALARY OF FULL-TIME INSTRUCTIONAL FACULTY IN HIGHER EDUCATION ON 12-MONTH CONTRACTS BY TYPE OF INSTITUTION, RANK AND SEX, 1978-79

ALL INSTITUTIONS	TOTAL		% Change from 1977-78	Univ.	4-year Colleges	2-year Colleges
	No. of Faculty	Salary				
Total	37,102	$23,145	6.9	$27,741	$22,587	$17,918
Men	27,960	24,619	7.0	28,772	23,861	13,624
Women	9,142	18,636	7.6	21,953	18,824	16,665
Professor	9,765	31,887	6.9	34,315	29,122	25,078
Men	9,016	32,147	6.7	34,354	29,456	25,351
Women	749	28,754	10.7	33,574	26,321	23,682
Associate Professor	7,726	24,817	6.4	26,411	24,007	21,801
Men	6,330	25,282	6.2	26,656	24,527	22,077
Women	1,396	22,709	7.6	24,777	21,972	21,117
Assistant Professor	7,263	20,597	6.5	22,111	19,629	18,647
Men	5,084	21,215	5.9	22,557	20,278	18,739
Women	2,179	19,156	8.3	20,606	18,430	18,489
Instructor	3,618	15,383	6.3	16,914	14,928	14,988
Men	1,875	15,995	6.3	17,971	15,305	15,684
Women	1,743	14,726	6.7	15,771	14,523	14,243
Lecturer	344	17,968	6.5	19,277	15,298	15,268
Men	198	19,224	7.4	20,781	16,103	16,147
Women	146	16,265	5.9	17,272	13,863	14,740
Not Ranked	8,386	17,192	5.8	17,288	14,937	17,423
Men	5,457	17,743	6.0	17,987	15,236	18,047
Women	2,929	16,167	5.7	15,890	13,935	16,324

SOURCE: Preliminary Data, National Center for Education Statistics, February 27, 1979.

TABLE 120

MEAN SALARY OF FULL-TIME INSTRUCTIONAL FACULTY IN HIGHER EDUCATION BY INSTITUTIONAL CONTROL, LENGTH OF CONTRACT AND ACADEMIC RANK, 1977-78 AND 1978-79

ACADEMIC RANK & LENGTH OF CONTRACT	ALL INSTITUTIONS			PUBLIC INSTITUTIONS			PRIVATE INSTITUTIONS		
	1977-78	1978-79	% Change	1977-78	1978-79	% Change	1977-78	1978-79	% Change
9 MONTH CONTRACTS									
Professor	$23,910	$25,572	7.0	$24,270	$25,974	7.0	$23,305	$24,896	6.8
Associate Professor	18,355	19,759	7.6	18,908	20,363	7.7	17,209	18,510	7.6
Assistant Professor	15,239	16,474	8.1	15,725	17,010	8.2	14,244	15,379	8.0
Instructor	12,908	13,970	8.2	13,497	14,584	8.1	11,322	12,319	8.8
Lecturer	13,509	14,578	7.9	13,591	14,646	7.8	13,246	14,359	8.4
No Academic Rank	17,494	18,619	6.4	17,805	18,934	6.3	12,970	14,039	8.2
All Ranks Combined	18,130	19,470	7.4	18,415	19,770	7.4	17,428	18,729	7.5
12 MONTH CONTRACTS									
Professor	$29,462	$31,775	7.9	$30,554	$32,970	7.9	$25,309	$27,230	7.6
Associate Professor	22,932	25,004	9.0	23,802	25,957	9.1	20,149	21,954	9.0
Assistant Professor	19,115	20,892	9.3	19,866	21,772	9.6	17,100	18,529	8.4
Instructor	14,419	15,755	9.3	15,176	16,634	9.6	12,950	14,049	8.5
Lecturer	16,239	17,631	8.6	16,204	17,609	8.7	16,447	17,764	8.0
No Academic Rank	16,296	17,710	8.7	16,726	18,165	8.6	12,818	14,036	9.5
All Ranks Combined	21,591	23,447	8.6	22,357	24,292	8.7	18,814	20,384	8.3

SOURCE: National Center for Education Statistics, Unpublished Data, 1978.

TABLE 121

NUMBER AND MEAN SALARIES OF FULL-TIME INSTRUCTIONAL FACULTY (ALL RANKS COMBINED ON 9-10 MONTH CONTRACTS) IN PUBLIC INSTITUTIONS OF HIGHER EDUCATION BY SEX OF FACULTY MEMBERS AND STATE, 1977-78

STATE OR OTHER AREA	Men		Women	
	Number	Salary	Number	Salary
Alabama	2,402	$17,647	1,132	$14,719
Alaska	*	*	*	*
Arizona	2,968	20,645	861	16,908
Arkansas	1,364	16,579	587	13,605
California	23,686	23,134	7,663	20,843
Colorado	3,382	18,769	872	15,041
Connecticut	2,121	21,181	731	17,568
Delaware	587	21,562	180	15,895
District of Columbia	422	22,483	255	19,996
Florida	4,858	18,291	1,891	15,840
Georgia	3,354	17,403	1,376	14,101
Hawaii	1,083	21,916	350	18,208
Idaho	854	17,497	219	14,945
Illinois	8,954	19,822	3,112	16,925
Indiana	3,779	19,398	1,248	15,446
Iowa	2,039	19,262	637	15,429
Kansas	2,787	18,267	772	14,802
Kentucky	2,562	17,922	946	14,696
Louisiana	2,931	17,639	1,358	14,528
Maine	768	16,806	182	14,169
Maryland	2,998	19,772	1,458	17,207
Massachusetts	3,679	19,742	1,418	16,105
Michigan	7,966	21,012	2,389	17,724
Minnesota	3,163	20,146	903	16,170
Mississippi	1,760	16,539	1,043	13,539
Missouri	3,599	18,183	1,214	15,123
Montana	773	18,182	161	15,522
Nebraska	1,517	17,789	442	13,981
Nevada	517	20,367	144	17,180
New Hampshire	632	17,950	140	14,616
New Jersey	4,281	$20,705	1,954	$17,820
New Mexico	1,274	19,206	318	15,783
New York	12,658	21,543	4,696	18,632
North Carolina	3,912	18,362	1,696	14,444
North Dakota	874	17,234	257	14,796
Ohio	7,385	19,998	2,316	16,058
Oklahoma	2,047	17,132	805	14,797
Oregon	2,874	19,388	872	16,570
Pennsylvania	7,038	20,569	2,190	17,560
Rhode Island	588	20,458	239	17,057
South Carolina	2,364	16,708	928	13,119
South Dakota	635	15,697	155	13,615
Tennessee	3,283	18,306	1,148	14,669
Texas	10,837	18,798	4,252	15,697
Utah	1,581	19,580	332	15,306
Vermont	496	17,507	171	14,408
Virginia	5,097	18,067	1,942	14,694
Washington	4,155	19,903	1,251	17,202
West Virginia	1,431	16,756	591	13,961
Wisconsin	5,465	19,531	1,609	17,020
Wyoming	627	19,756	153	15,781
50 STATES & D.C.	176,407	19,849	61,559	16,684
American Samoa	20	10,239	19	10,335
Canal Zone	22	27,772	5	23,537
Guam	111	15,406	68	13,803
Puerto Rico	1,424	17,152	1,258	14,225
Trust Terr., Pac. Is.				
Virgin Islands	38	15,078	24	15,365
OUTLYING AREAS TOTAL	1,615	17,043	1,374	14,204
AGGREGATE U.S.	178,551	19,841	62,946	16,630

* No data available.

SOURCE: National Center for Education Statistics, Unpublished Data, 1978

TABLE 122

MEAN SALARIES OF FULL-TIME INSTRUCTIONAL FACULTY (ALL RANKS COMBINED) ON 9-10 MONTH CONTRACTS IN PRIVATE INSTITUTIONS OF HIGHER EDUCATION BY SEX OF FACULTY MEMBERS AND STATE, 1977-78

STATE OR OTHER AREA	Men		Women	
	Number	Salary	Number	Salary
Alabama	232	$13,500	109	$11,758
Alaska	10	13,713	7	13,271
Arizona	82	15,530	26	14,292
Arkansas	244	14,488	82	11,916
California	4,139	20,686	1,086	15,624
Colorado	549	18,096	186	14,659
Connecticut	1,835	20,937	531	15,859
Delaware	39	14,724	40	12,669
District of Columbia	1,314	21,104	550	16,991
Florida	1,211	16,848	364	13,885
Georgia	1,093	15,948	545	13,364
Hawaii	24	15,270	13	14,231
Idaho	216	16,118	44	13,913
Illinois	4,160	20,168	1,181	15,357
Indiana	1,763	17,130	462	13,463
Iowa	1,323	16,065	431	13,390
Kansas	461	13,007	158	11,787
Kentucky	552	14,345	274	12,101
Louisiana	660	17,334	217	14,153
Maine	451	16,450	111	13,721
Maryland	715	20,899	245	15,637
Massachusetts	5,897	21,097	1,678	15,999
Michigan	1,280	17,371	441	14,161
Minnesota	1,287	16,994	426	13,969
Mississippi	283	13,246	150	10,618
Missouri	1,469	17,625	519	13,392
Montana	82	14,376	30	12,538
Nebraska	451	15,279	61	12,756
Nevada	*	*	*	*
New Hampshire	563	18,151	208	13,403
New Jersey	1,974	$20,880	554	$15,787
New Mexico	78	13,504	58	12,057
New York	9,927	20,789	3,097	16,318
North Carolina	1,368	15,011	648	12,531
North Dakota	54	14,496	48	12,081
Ohio	2,996	17,456	829	14,139
Oklahoma	626	17,545	226	13,765
Oregon	545	17,064	138	14,756
Pennsylvania	6,157	19,282	1,627	14,711
Rhode Island	724	19,803	139	15,085
South Carolina	668	14,113	290	11,903
South Dakota	209	14,036	97	11,798
Tennessee	1,356	16,550	439	12,148
Texas	2,345	17,466	881	13,789
Utah	35	14,591	22	12,389
Vermont	405	15,782	121	13,217
Virginia	1,211	16,173	494	13,482
Washington	730	16,617	258	13,814
West Virginia	317	13,667	158	11,973
Wisconsin	1,008	17,129	302	13,770
Wyoming	*	*	*	*
50 STATES & D.C.	65,118	18,783	20,701	14,597
American Samoa	*	*	*	*
Canal Zone	*	*	*	*
Guam	*	*	*	*
Puerto Rico	291	12,494	244	12,052
Trust Terr., Pac. Is. Virgin Islands	*	*	*	*
OUTLYING AREAS TOTAL	291	12,494	244	12,052
AGGREGATE U.S.	65,409	18,755	20,945	14,567

* No data available.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306.

TABLE 123

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS WHO ARE UNIVERSITY OR 4-YEAR COLLEGE TEACHERS BY FIELD, SALARY BASE AND ACADEMIC RANK, 1977

FIELD AND SALARY BASE	Total	ACADEMIC RANK					
		Professor	Associate Professor	Assistant Professor	Instructor	Lecturer	Other
All Fields							
Academic Year	$18,800	$24,000	$18,400	$15,100	$12,100	$14,600	*
Calendar Year	24,200	29,800	23,500	19,000	16,300	17,300	18,800
Physical Scientists							
Academic Year	18,900	22,800	18,000	14,700	*	*	
Calendar Year	24,000	29,400	22,400	18,400	*	*	
Chemists							
Academic Year	18,400	22,000	17,800	14,800	*	*	
Calendar Year	24,000	28,000	22,900	18,300	*	*	
Physicists & Astronomers							
Academic Year	19,600	24,400	18,200	14,600	*	*	*
Calendar Year	24,200	30,200	21,900	18,700	*	*	*
Mathematical Scientists							
Academic Year	18,500	24,200	18,200	14,900	12,500	*	*
Calendar Year	21,800	28,300	20,400	17,400	*	*	*
Mathematicians							
Academic Year	18,400	24,000	18,200	14,900	12,400	*	*
Calendar Year	21,900	28,100	19,900	17,000	*	*	*
Statisticians							
Academic Year	18,700	25,500	18,700	14,600	*	*	*
Calendar Year	21,600	*	*	*	*	*	*
Computer Specialists							
Academic Year	19,300	25,500	19,700	15,500	*	*	*
Calendar Year	26,500	*	*	*	*	*	*
Environmental Scientists							
Academic Year	18,600	24,000	17,800	15,000	*	*	*
Calendar Year	24,600	30,100	23,400	*	*	*	*
Earth Scientists							
Academic Year	18,600	23,800	17,500	14,800	*	*	*
Calendar Year	23,500	28,500	21,600	*	*	*	*
Oceanographers							
Academic Year	18,500	*	*	*	*	*	*
Calendar Year	25,300	*	*	*	*	*	*
Atmospheric Scientists							
Academic Year	20,100	*	*	*	*	*	*
Calendar Year	27,900	*	*	*	*	*	*

NOTE: Includes individuals reporting Teaching as their primary or secondary work activity. All median salaries were computed only for full-time employed civilians.

* No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, Characteristics of Doctoral Scientists and Engineers in the United States, 1977, NSF 79-306.

TABLE 123 (Continued)

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS WHO ARE UNIVERSITY OR 4-YEAR COLLEGE TEACHERS BY FIELD, SALARY BASE AND ACADEMIC RANK, 1977

FIELD AND SALARY BASE	Total	ACADEMIC RANK					
		Professor	Associate Professor	Assistant Professor	Instructor	Lecturer	Other
Engineers							
Academic Year	$21,300	$25,000	$19,900	$16,400	*	*	*
Calendar Year	26,800	32,200	24,600	19,900	*	*	*
Life Scientists							
Academic Year	18,000	22,900	17,900	14,900	*	*	*
Calendar Year	24,200	29,600	23,900	19,600	$16,900	*	$19,700
Biological Scientists							
Academic Year	17,900	22,600	17,700	14,800	*	*	*
Calendar Year	24,100	30,300	24,100	19,700	16,700	*	19,300
Agricultural Scientists							
Academic Year	18,400	23,600	18,600	*	*	*	*
Calendar Year	23,400	26,100	22,200	19,100	*	*	*
Medical Scientists							
Academic Year	20,000	24,800	19,300	15,300	*	*	*
Calendar Year	26,300	32,300	25,700	20,300	*	*	*
Psychologists							
Academic Year	18,300	24,400	18,200	14,600	*	*	*
Calendar Year	22,200	27,700	22,300	18,500	*	*	*
Social Scientists							
Academic Year	18,700	24,500	18,500	15,200	*	*	*
Calendar Year	23,700	29,600	22,000	16,500	*	*	*
Economists							
Academic Year	20,600	25,300	19,900	16,500	*	*	*
Calendar Year	25,100	30,900	24,800	19,500	*	*	*
Sociologists/ Anthropologists							
Academic Year	18,100	24,100	18,400	15,000	*	*	*
Calendar Year	20,600	29,000	21,300	15,200	*	*	*
Other Social Scientists							
Academic Year	18,300	24,100	18,100	14,900	*	*	*
Calendar Year	23,000	29,200	20,600	15,900	*	*	*

NOTE: Includes individuals reporting Teaching as their primary or secondary work activity. All median salaries were computed only for full-time employed civilians.

* No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: University of Southern California, Faculty Compensation: Total University Earnings at Research Universities, October 15, 1979.

TABLE 124

EXTRA SALARIES RECEIVED BY FACULTY MEMBERS BY DISCIPLINE AND RANK, 1977-78

DISCIPLINE & RANK	Base Salary		EXTRA EARNINGS**							
			Academic Year		Summer					
			From All Sources		From Teaching		From Research		From Other	
	No.	Average	No.	Average	No.	Average	No.	Average	No.	Average
Biology	108	$23,264	29	$1,581	41	$3,142	62	$4,762	3	***
Professor	57	27,430	18	1,840	25	3,720	30	5,455	2	***
Associate	37	19,460	8	1,144	10	1,985	25	4,495	---	---
Assistant	14	16,358	3	***	6	2,662	7	2,746	1	***
Business	256	24,684	107	3,444	89	4,127	76	4,505	24	$ 932
Professor	88	29,927	42	4,249	32	5,114	31	5,061	5	1,271
Associate	92	22,985	37	3,225	34	3,694	19	3,936	10	1,124
Assistant	58	20,446	23	2,523	18	3,700	25	4,296	8	289
Chemistry	92	23,645	20	1,739	30	3,470	41	4,708	1	***
Professor	53	27,672	13	1,939	19	4,149	22	6,050	---	---
Associate	26	19,526	5	1,834	8	2,303	14	3,842	1	***
Assistant	12	15,797	2	***	3	***	4	***	---	---
Economics	63	25,030	23	2,833	39	3,580	20	4,312	10	1,737
Professor	30	31,011	13	3,865	15	4,638	13	5,300	3	***
Associate	18	21,327	7	1,678	14	3,451	3	***	4	***
Assistant	15	17,513	3	***	10	2,174	4	***	3	1,915
Engineering	438	24,528	154	1,685	191	3,756	295	4,649	48	1,219
Professor	257	28,062	89	1,683	94	3,954	190	5,209	27	1,400
Associate	117	20,750	33	1,583	62	3,921	74	3,989	16	978
Assistant	60	17,323	31	1,845	35	2,930	29	2,797	3	***
English	134	20,846	67	1,477	84	3,126	16	1,671	12	1,388
Professor	54	26,311	29	1,958	36	4,168	5	1,835	7	1,462
Associate	48	18,853	23	1,175	29	2,808	7	1,618	4	***
Assistant	29	14,735	12	1,112	17	1,598	4	***	1	***
Foreign languages	51	19,712	24	1,291	31	2,375	5	1,691	7	1,544
Professor	21	24,041	11	1,565	15	2,619	2	***	2	***
Associate	15	18,250	7	1,123	10	2,301	1	***	2	***
Assistant	15	15,114	6	983	6	1,890	2	***	3	***
Philosophy	33	21,441	13	977	20	2,976	6	3,495	3	***
Professor	12	28,513	4	***	6	4,566	4	***	1	***
Associate	11	20,245	4	***	10	2,519	1	***	---	---
Assistant	8	14,421	3	***	4	***	1	330	2	1,083
Physics	105	25,353	15	1,676	26	3,314	74	5,586	6	2,855
Professor	74	28,291	12	2,044	18	3,943	53	6,296	4	***
Associate	21	19,116	2	***	7	1,919	14	3,645	1	***
Assistant	10	16,710	1	***	1	***	7	4,093	1	***
Psychology	148	22,553	56	2,345	55	2,441	38	4,203	6	2,429
Professor	44	29,330	12	3,014	17	2,899	13	6,021	1	***
Associate	54	20,368	20	3,249	21	2,768	9	2,978	2	***
Assistant	48	19,135	23	1,303	16	1,613	15	3,576	3	***
Sociology	52	24,325	16	1,791	30	3,538	24	4,618	7	4,189
Professor	22	31,737	6	2,693	9	4,254	13	6,532	4	***
Associate	17	21,088	5	1,792	13	3,995	5	2,105	3	***
Assistant	11	16,327	3	***	7	1,821	5	2,501	---	---

* 1977-78 data from eight research universities.

** Averages calculated only for those faculty members receiving extra earnings equal to at least 1 per cent of their base salary.

*** Average not calculated because there are fewer than five faculty members in the category.

--- indicates no faculty member in the category.

SOURCE: American Psychological Association, 1978 Survey of Graduate Departments of Psychology.

TABLE 125

NUMBER AND MEAN 9-10 MONTH SALARIES OF FULL-TIME UNITED STATES FACULTY IN DOCTORAL DEPARTMENTS OF PSYCHOLOGY BY GEOGRAPHIC REGION, RANK AND YEARS IN RANK, 1978

GEOGRAPHIC REGION	FULL PROFESSOR		ASSOC. PROFESSOR		ASST. PROFESSOR		LECTURER/INSTRUCTOR	
	At least 3 Years in Rank	Less than 3 Years in Rank	At Least 3 Years in Rank	Less than 3 Years in Rank	At Least 3 Years in Rank	Less than 3 Years in Rank	At Least 3 Years in Rank	Less than 3 Years in Rank
Northeast (56 Departments)	(394) $30,475	(63) $25,457	(257) $22,457	(101) $19,812	(152) $17,428	(145) $15,762	(10) $15,940	(12) $13,725
Southeast (44 Departments)	(307) 28,675	(66) 24,306	(183) 20,330	(85) 18,838	(145) 16,773	(140) 15,398	(7) 15,971	(6) 13,850
Midwest (51 Departments)	(466) 29,151	(92) 23,547	(207) 21,090	(97) 19,173	(124) 16,960	(138) 15,560	(7) 14,043	(19) 13,832
West (54 Departments)	(387) 28,759	(77) 24,409	(190) 20,756	(83) 19,048	(123) 17,089	(131) 15,756	(6) 17,783	(9) 14,467
TOTAL (205 Departments)	(1,554) 29,295	(298) 24,342	(837) 21,268	(366) 19,243	(544) 17,070	(554) 15,618	(30) 15,873	(46) 13,930

TABLE 126

NUMBER AND MEAN 9-10 MONTH SALARIES OF FULL-TIME UNITED STATES FACULTY IN MASTER'S DEPARTMENTS OF PSYCHOLOGY BY GEOGRAPHIC REGION, RANK AND YEARS IN RANK, 1978

GEOGRAPHIC REGION	FULL PROFESSOR		ASSOC. PROFESSOR		ASST. PROFESSOR		LECTURER/INSTRUCTOR	
	At Least 3 Years in Rank	Less than 3 Years in Rank	At Least 3 Years in Rank	Less than 3 Years in Rank	At Least 3 Years in Rank	Less than 3 Years in Rank	At Least 3 Years in Rank	Less than 3 Years in Rank
Northeast (23 Departments)	(71) $26,949	(9) $23,378	(93) $21,401	(15) $19,520	(62) $17,679	(22) $15,073	(1) $14,000	(2) $12,950
Southeast (32 Departments)	(88) 23,393	(19) 21,063	(71) 19,282	(46) 18,939	(48) 16,222	(65) 15,065	(6) 13,333	(10) 11,990
Midwest (29 Departments)	(111) 24,748	(19) 21,353	(85) 20,769	(48) 18,783	(82) 16,855	(55) 15,604	(6) 14,767	(11) 13,655
West (30 Departments)	(241) 26,050	(46) 22,900	(113) 20,682	(39) 19,044	(41) 16,766	(38) 16,108	(5) 16,360	(13) 15,662
TOTAL (114 Departments)	(511) 25,435	(93) 22,255	(362) 20,613	(148) 18,975	(253) 16,872	(180) 15,451	(18) 14,689	(36) 13,878

TABLE 127

NUMBER AND MEAN 9-10 MONTH SALARIES OF FULL-TIME UNITED STATES FACULTY IN GRADUATE DEPARTMENTS OF PSYCHOLOGY BY DEPARTMENT, RANK AND YEARS IN RANK, 1978

DEPARTMENT	FULL PROFESSOR		ASSOC. PROFESSOR		ASST. PROFESSOR		LECTURER/INSTRUCTOR	
	At Least 3 Years in Rank	Less than 3 Years in Rank	At Least 3 Years in Rank	Less Than 3 Years in Rank	At Least 3 Years in Rank	Less than 3 Years in Rank	At Least 3 Years in Rank	Less Than 3 Years in Rank
Psychology, Psychological Sciences (248 Depts.)	(1,719) $28,458	(334) $23,993	(996) $21,009	(454) $19,095	(690) $17,006	(619) $15,431	(29) $15,483	(68) $14,149
Educational Psychology (26 Depts.)	(145) 28,153	(17) 22,753	(88) 21,261	(19) 19,047	(45) 17,804	(39) 16,313	--- ---	(2) 41,300
Counseling Psychology, Counselor Education (14 Depts.)	(69) 26,233	(17) 22,782	(21) 21,195	(8) 19,775	(18) 15,783	(14) 16,193	--- ---	--- ---
Human Development, Child Development (12 Depts.)	(57) 28,923	(8) 24,350	(42) 22,005	(18) 20,161	(17) 17,147	(35) 16,377	(10) 14,400	(8) 12,850
Professional School (3 Depts.)	(5) 31,740	(2) 25,500	(15) 20,927	(1) 19,400	(5) 18,140	(2) 21,750	--- ---	--- ---
Other (15 Depts.)	(62) 26,950	(11) 22,100	(36) 21,208	(13) 19,992	(21) 15,990	(21) 15,981	(6) 14,700	(4) 11,725

Source: American Psychological Association, 1978 Survey of Graduate Departments of Psychology.

TABLE 128

NUMBER AND 9-10 MONTH SALARY OF FULL-TIME FACULTY IN UNITED STATES DEPARTMENTS OF PSYCHOLOGY BY RANK AND YEARS IN RANK, 1978

RANK	Less than 3 Years in Rank		At Least 3 Years in Rank	
	Number	Salary	Number	Salary
Full Professor	391	$23,845	2,065	$28,340
Associate Professor	514	19,166	1,199	21,070
Assistant Professor	734	15,577	797	17,007
Lecturer or Instructor	82	13,907	48	15,429

SOURCE: Chemical and Engineering News, Vol. 57, June 25, 1979

TABLE 129

MEDIAN ANNUAL SALARIES OF CHEMISTS IN ACADEMIC INSTITUTIONS BY TYPE OF EMPLOYER AND RANK, 1979

TYPE OF EMPLOYER	RANK OF PH.D. CHEMISTS				All Ph.D. Chemist & Chemical Engineer Employees[1]
	Professor	Associate Professor	Assistant Professor	Instructor	
Public University	$29,000	$21,600	$17,000	$14,500	$24,500
Public College	23,000	20,000	16,000	---	20,500
Private University	30,000	21,500	17,500	---	23,000
Private College[2]	21,400	18,000	14,500	---	18,100
All Employers[3]	27,000	20,800	16,000	15,000	

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[1] Includes unranked teachers and administrators and other nonfaculty employees.

[2] Excludes two-year colleges.

[3] Includes employees of two-year colleges, other schools, and organizations other schools who are Ph. D.

SOURCE: The American Mathematical Society NOTICES, Vol. 25, No. 6, Issue No. 188, October 1978, pp. 390-394

TABLE 130

NUMBER AND MEDIAN SALARY RANGES FOR DOCTORAL DEGREE MATHEMATICS TEACHERS BY RANK AND TYPE OF INSTITUTION, 1978-79 AND 1977-78

TYPE OF INSTITUTION	RANK	1978-1979			1977-1978		
		NUMBER OF FACULTY		MEDIAN RANGES	NUMBER OF FACULTY		MEDIAN RANGES
		Total	Women		Total	Women	
Doctorate Granting Departments GROUP I*	Instructor/Lecturer	61	6	-	65	6	-
	Assistant Professor	160	22	$15,000 - 17,000	155	16	$14,700 - 17,000
	Associate Professor	191	8	20,000 - 22,700	203	8	19,000 - 21,000
	Professor	625	11	27,500 - 34,200	605	11	26,900 - 32,000
Doctorate Granting Departments GROUP II*	Instructor/Lecturer	62	7	12,500 - 15,500	67	7	11,800 - 14,200
	Assistant Professor	233	22	15,600 - 17,400	236	17	14,500 - 16,500
	Associate Professor	325	11	19,900 - 21,500	333	11	19,300 - 21,100
	Professor	458	9	27,200 - 30,700	437	10	26,000 - 29,500
Doctorate Granting Departments GROUP III*	Instructor/Lecturer	58	9	12,000 - 14,800	63	14	11,500 - 14,800
	Assistant Professor	408	45	15,500 - 17,500	414	44	15,000 - 16,700
	Associate Professor	644	23	19,700 - 22,100	641	22	18,800 - 20,800
	Professor	664	16	25,000 - 29,000	631	15	24,100 - 28,300
Doctorate Granting Departments GROUP IV*	Instructor/Lecturer	5	1	-	7	3	-
	Assistant Professor	163	27	16,300 - 18,500	155	27	15,400 - 17,300
	Associate Professor	133	9	20,700 - 24,300	137	7	19,500 - 23,000
	Professor	257	8	28,700 - 35,600	244	9	27,600 - 32,700
Doctorate Granting Departments GROUP V*	Instructor/Lecturer	3	1	-	2	1	-
	Assistant Professor	142	11	17,100 - 19,200	146	11	16,000 - 17,600
	Associate Professor	116	6	20,100 - 24,400	107	5	19,500 - 23,200
	Professor	226	3	28,300 - 33,000	219	3	27,200 - 32,300
Doctorate Granting Departments GROUP VI*	Instructor/Lecturer	4	1	-	5	2	-
	Assistant Professor	88	6	16,200 - 20,800	98	6	17,100 - 19,000
	Associate Professor	203	9	20,800 - 26,400	202	10	20,400 - 25,300
	Professor	162	1	30,200 - 33,100	154	1	29,700 - 32,000
Master's Degree Granting Departments	Instructor/Lecturer	21	5	-	18	3	-
	Assistant Professor	564	64	15,200 - 17,600	560	58	14,400 - 16,700
	Associate Professor	912	64	19,000 - 21,400	894	58	17,800 - 20,300
	Professor	752	48	22,900 - 27,100	692	41	21,800 - 25,600
Bachelor's Degree Granting Departments	Instructor/Lecturer	12	2	-	19	3	-
	Assistant Professor	439	60	13,800 - 15,800	442	63	13,000 - 15,300
	Associate Professor	503	46	16,000 - 19,500	474	43	15,500 - 18,400
	Professor	401	34	19,500 - 25,100	377	33	18,400 - 24,400

*See footnote to TABLE 131.

SOURCE: The American Mathematical Society NOTICES, Vol. 25, No. 6, Issue No. 188, October 1978, pp. 390-394.

TABLE 131

NUMBER AND MEDIAN SALARY RANGES FOR NON-DOCTORAL DEGREE MATHEMATICS TEACHERS BY RANK AND TYPE OF INSTITUTION, 1978-79 AND 1977-78

TYPE OF INSTITUTION	NON-PH.D. DEGREE RANK	1978-1979			1977-1978		
		NUMBER OF FACULTY		MEDIAN RANGES	NUMBER OF FACULTY		MEDIAN RANGES
		Total	Women		Total	Women	
Doctorate Granting Departments GROUP II*	Instructor/Lecturer	18	11	$11,900 - 17,800	20	10	$12,400 - 15,400
	Assistant Professor	4	0	-	4	0	-
	Associate Professor	1	0	-	2	0	-
	Professor	1	0	-	1	0	-
Doctorate Granting Departments GROUP III*	Instructor/Lecturer	65	35	10,500 - 14,700	74	34	10,600 - 13,500
	Assistant Professor	75	27	14,800 - 17,900	79	29	13,900 - 16,900
	Associate Professor	55	8	19,300 - 22,800	60	7	18,400 - 21,100
	Professor	13	0	22,700 - 37,700	14	0	22,000 - 33,900
Doctorate Granting Departments GROUP VI	Instructor/Lecturer	8	2	-	7	1	-
	Assistant Professor	20	7	-	17	7	-
	Associate Professor	23	2	23,500 - 26,200	22	2	24,800 - 25,500
	Professor	6	0	-	7	0	-
Master's Degree Granting Departments	Instructor/Lecturer	212	99	11,500 - 15,400	214	101	11,000 - 14,000
	Assistant Professor	317	78	15,000 - 17,700	335	86	13,900 - 16,600
	Associate Professor	229	31	17,700 - 21,500	230	32	16,500 - 20,100
	Professor	42	2	21,500 - 27,300	44	2	19,800 - 25,600
Bachelor's Degree Granting Departments	Instructor/Lecturer	163	67	11,100 - 13,700	180	78	10,200 - 13,000
	Assistant Professor	253	60	13,200 - 17,100	271	61	12,500 - 16,000
	Associate Professor	227	29	15,000 - 19,700	220	28	14,300 - 18,500
	Professor	40	5	19,300 - 25,500	38	4	18,000 - 25,000

* Group I and Group II include the leading departments of mathematics in the U.S. as rated by the American Council of Education in 1969 in "A Rating of Graduate Programs" by Kenneth D. Roose and Charles J. Andersen, in which departments were ranked according to the quality of their graduate faculty. Group I is composed of the 27 departments ranked highest; Group II is made up of the other 38 leading departments listed in that report. Group III contains all other U.S. departments of mathematics. Group IV includes U.S. departments of statistics, biostatistics and biometrics. Group V includes all other U.S. departments in the mathematical sciences. Group VI consists of all departments in the mathematical sciences from Canadian universities.

SOURCE: American Association of Colleges of Pharmacy, Annual Survey of Faculty Salaries, 1978-79.

TABLE 132

NUMBER AND AVERAGE CALENDAR YEAR SALARIES OF FACULTY IN COLLEGES OF PHARMACY BY YEARS IN RANK AND ACADEMIC RANK, 1978-79

Years in Rank	ACADEMIC RANK									
	Professor		Associate Professor		Assistant Professor		Dean		Assistant/ Associate Dean	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
0-1	21	$30,425	77	$25,416	179	$20,456	4	$43,950	8	$31,471
2-5	79	31,753	173	26,468	279	22,505	17	41,121	37	30,632
6-10	76	34,188	62	27,396	27	24,857	21	40,301	23	32,131
11-15	39	35,771	15	25,986			26	43,742	25	36,525
16-20	17	37,090								
21+	20	35,494								
Overall	263	33,557	337	26,310	496	21,882	68	42,036	97	32,576

TABLE 133

AVERAGE CALENDAR YEAR SALARIES OF FACULTY IN COLLEGES OF PHARMACY BY DISCIPLINE AND ACADEMIC RANK, 1978-79

Discipline	ACADEMIC RANK							
	Professor		Associate Professor		Assistant Professor		Instructors	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Pharmacy/Pharmaceutics	74	$32,582	71	$26,294	68	$22,176	28	$18,431
Pharmaceutical/ Medical Chemistry	81	34,290	59	26,093	40	22,181	15	12,915
Pharmacognosy	25	34,448	22	26,113	7	21,271	--	--
Pharmacy Administration	20	33,248	28	27,021	35	23,083	9	18,234
Pharmacology	45	34,163	62	25,390	49	21,815	3	15,833
Clinical Pharmacy	13	32,293	88	26,967	278	21,541	82	18,222
Hospital Pharmacy	--	--	3	30,120	13	23,380	5	17,011

SOURCE: Engineering Manpower Commission of Engineers Joint Council, Salaries of Engineers in Education, 1978

TABLE 134

NUMBER AND MEDIAN ANNUAL SALARIES OF FACULTY IN ALL ENGINEERING SCHOOLS ON NINE-MONTH CONTRACTS, BY RANK AND SELECTED YEARS SINCE BACCALAUREATE, 1978

RANK	YEARS SINCE BACCALAUREATE								
	5	7	9-11	15-17	18-20	21-23	24-26	27-29	35+
Professors		(6) $20,300	(19) $22,100	(308) $24,750	(514) $25,650	(466) $26,350	(454) $26,800	(527) $27,100	(687) $27,550
Associate Professors		([illegible]) 19,050	(241) 19,950	(518) 20,900	(422) 21,050	(354) 21,000	(217) 20,850	(199) 20,650	(175) 20,100
Assistant Professors	(68) $16,500	(136) 16,850	(447) 17,300	(165) 17,800	(83) 17,850	(79) 17,750	(57) 17,600	(51) 17,350	(42) 16,300
Instructors	(43) 13,600	(25) 14,150	(46) 14,700	(14) 15,300	(9) 15,400	(16) 15,500	(10) 15,550	(7) 15,550	(15) 15,600
Administrators	(1) -	(1) -	(5) 19,850	(27) 24,050	(50) 26,100	(46) 27,950	(32) 29,450	(34) 30,350	(33) 28,100
All Faculty*	(70) 16,250	(163) 17,100	(770) 18,450	(1081) 21,050	(1100) 22,200	(969) 23,250	(787) 24,150	(825) 24,800	(959) 25,300

*Includes faculty in technical schools

TABLE 135

NUMBER AND MEDIAN ANNUAL SALARIES OF FACULTY IN ALL ENGINEERING SCHOOLS ON TWELVE-MONTH CONTRACTS, BY RANK AND SELECTED YEARS SINCE BACCALAUREATE, 1978

RANK	YEARS SINCE BACCALAUREATE								
	7	9-11	12-14	15-17	18-20	21-23	24-26	27-29	35+
Professors		(1) -	(10) $28,950	(37) $29,950	(60) $30,900	(37) $31,750	(36) $32,500	(57) $33,150	(31) $34,200
Associate Professors		(12) $26,600	(46) 26,750	(47) 26,750	(48) 26,750	(18) 26,700	(19) 26,650	(26) 26,550	(9) 25,850
Assistant Professors	(11) $20,850	(36) 21,300	(26) 21,700	(17) 22,000	(6) 22,200	(5) 22,350	(7) 22,300	(10) 22,200	(2) -
Administrators	(1) -	(9) 28,050	(25) 29,000	(44) 30,000	(89) 31,150	(89) 32,350	(88) 33,700	(111) 35,200	(198) 42,200
Researchers	(64) 16,300	(148) 17,950	(107) 19,700	(60) 21,300	(54) 22,800	(54) 24,050	(41) 24,950	(46) 25,450	(38) 24,300

SOURCE: Engineering Manpower Commission, Salaries of Engineers in Education, 1978

TABLE 136

NUMBER AND MEDIAN SALARIES OF ENGINEERING FACULTY BY RANK, TYPE OF INSTITUTION AND MONTHS ON CONTRACT, 1978

TYPE OF INSTITUTION	Instructor	Assistant Professor	Associate Professor	Professor	Administrator	Researcher
ENGINEERING SCHOOL, PH. D. PROGRAM						
	(353)	(1,877)	(2,876)	(3,733)	(301)	(112)
9-10 Month Contract	$13,600	$17,100	$20,800	$26,750	$28,250	$25,850
	(42)	(158)	(242)	(312)	(775)	(909)
11-12 Month Contract	17,400	21,750	26,350	32,900	35,800	18,400
ENGINEERING SCHOOL, NON-PH.D. PROGRAM						
	(72)	(346)	(515)	(460)	(48)	(0)
9-10 Month Contract	13,900	17,000	19,900	24,850	24,350	---
	(1)	(24)	(72)	(83)	(137)	(39)
11-12 Month Contract	12,400	17,800	27,450	29,300	31,700	21,500
TECHNICAL SCHOOLS						
	(285)	(281)	(254)	(122)	(61)	(0)
9-10 Month Contract	14,200	16,900	19,700	23,450	22,250	---
	(58)	(9)	(25)	(18)	(82)	(0)
11-12 Month Contract	17,800	15,250	22,450	18,500	25,400	---

SOURCE: College and University Personnel Association, 1978-79 Administrative Compensation Survey, March 1979

TABLE 137

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS BY POSITION AND CONTROL, 1978-79

POSITION	All Institutions		Median Salary	
	Number	Salary	Public	Private
Chief Executive of a System	204	$47,432	$45,675	$55,100
Chief Executive of a Single Institution	1,085	40,000	41,500	37,500
Executive Vice President	285	35,968	37,290	30,500
Chief Academic Officer	1,141	32,000	35,000	28,000
Chief Planning Officer	273	29,750	31,086	25,000
Chief Business Officer	1,151	29,500	31,860	26,500
Chief Budgeting Officer	306	25,400	25,944	24,337
Chief Development Officer	569	26,748	27,570	26,000
Chief Public Relations Officer	610	20,000	22,800	17,000
Director, Alumni Affairs	566	17,000	19,585	15,500
Chief Health Professions Officer	109	37,857	39,397	31,537
Chief Student Affairs Officer	1,111	26,500	30,044	26,500
Registrar	943	19,600	22,392	16,426
Director of Admissions	850	21,000	22,450	19,000
Director, Student Financial Aid	1,011	18,020	20,226	15,300
Director, Student Placement	719	18,119	20,500	15,270
Director, Student Counseling	746	21,475	23,085	17,700
Director, Student Union	514	18,600	20,900	14,000
Director, Student Health Services	479	24,000	32,700	14,175
Director, Student Housing	521	16,800	19,465	14,000
Director, Food Services	390	18,800	20,640	17,700
Director, Physical Plant	1,050	21,048	23,738	18,000
Director, Purchasing	616	18,876	19,868	16,000
Director, Bookstore	769	14,073	16,300	11,687
Director, Campus Security	650	16,899	19,000	14,250
Director, Legal Services	125	29,650	29,190	30,484
Director, Personnel/Human Resources	484	22,620	23,922	18,900
Director, Affirmative Action/Equal Emp.	319	21,500	21,580	21,000
Director, Library Services	1,149	22,102	25,435	18,275
Director, Computer Center	730	23,500	25,000	20,340
Director, Information Systems	193	25,838	26,498	23,600
Director, Information Office	442	19,000	20,313	16,550
Director, Community Services	299	23,582	24,379	17,775
Director, Institutional Research	414	24,150	25,000	20,550

SOURCE: College and University Personnel Association, 1978-79 Administrative Compensation Survey, March 1979.

TABLE 137 (Continued)

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS BY POSITION AND CONTROL, 1978-79

POSITION	All Institutions		Median Salary	
	Number	Salary	Public	Private
Comptroller	655	23,326	25,000	20,560
Director, Athletics	745	23,793	26,364	20,500
Dean, Architecture	52	39,750	39,750	39,500
Dean, Agriculture	80	35,976	35,976	N/A
Dean, Arts and Letters	79	30,841	33,192	18,350
Dean, Arts and Sciences	307	33,972	34,008	32,925
Dean, Business	492	32,436	32,970	31,200
Dean, Communications	95	27,595	28,728	19,375
Dean, Continuing Education	469	26,896	28,517	22,100
Dean, Dentistry	50	51,500	50,940	51,500
Dean, Education	353	34,000	35,508	25,200
Dean, Engineering	202	38,700	37,700	39,000
Dean, Extension	93	30,852	31,524	26,600
Dean, Fine Arts	155	31,500	32,712	23,100
Dean, Graduate Programs	335	34,668	35,772	30,000
Dean, Health Related Professions	159	28,000	28,500	23,187
Dean, Home Economics	66	32,004	34,000	19,112
Dean, Humanities	168	25,000	27,091	19,850
Dean, Instruction	41	27,769	28,050	21,000
Dean, Law	103	48,000	47,000	48,000
Dean, Library & Information Sciences	86	30,000	30,249	20,489
Dean, Medicine	70	63,500	62,500	70,000
Dean, Music	94	29,056	31,474	26,472
Dean, Nursing	235	30,000	30,700	28,500
Dean, Occupational Studies	185	27,062	27,300	17,200
Dean, Pharmacy	50	44,390	45,000	37,300
Dean, Public Health	19	45,500	45,500	35,000
Dean, Sciences	232	27,580	29,735	21,714
Dean, Social Sciences	187	25,717	27,983	18,789
Dean, Social Work	74	35,976	36,040	26,250
Dean, Special Programs	91	24,087	24,863	21,500
Dean, Undergraduate Programs	39	32,712	34,296	28,226
Dean, Veterinary Medicine	15	48,746	47,800	N/A

N/A - Not applicable.

120 SOURCE: National Education Association, reprinted in Changing Times, September 1979.

TABLE 138

ESTIMATED AVERAGE ANNUAL SALARY OF ELEMENTARY AND SECONDARY PUBLIC SCHOOL TEACHERS BY STATE, 1978-79

STATE	SALARY	STATE	SALARY
United States	$15,040	Montana	$13,651
Alabama	12,948	Nebraska	12,936
Alaska	24,150	Nevada	15,206
Arizona	15,200	New Hampshire	11,825
Arkansas	11,126	New Jersey	16,325
California	17,580	New Mexico	14,215
Colorado	15,000	New York	18,600
Connecticut	15,235	North Carolina	13,537
Delaware	14,917	North Dakota	12,013
Florida	14,005	Ohio	14,200
Georgia	12,793	Oklahoma	12,498
Hawaii	18,357	Oregon	14,765
Idaho	12,624	Pennsylvania	15,400
Illinois	16,905	Rhode Island	16,698
Indiana	14,194	South Carolina	12,206
Iowa	14,199	South Dakota	11,750
Kansas	12,784	Tennessee	12,733
Kentucky	13,130	Texas	12,975
Louisiana	13,015	Utah	13,910
Maine	12,238	Vermont	11,786
Maryland	16,587	Virginia	13,200
Massachusetts	16,125	Washington	17,400
Michigan	17,974	West Virginia	12,675
Minnesota	15,446	Wisconsin	15,000
Mississippi	11,150	Wyoming	14,469
Missouri	12,896		

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INDEX

A
Academic Institutions 96-111
  Administrators in 118, 119
  Chemists in 97, 108, 110, 112
  Engineers in 66, 67, 71-73, 80, 97, 109, 110 116, 119
  Engineering Technologists in 86
  Engineering Technicians in 85
  Mathematicians in 97, 108, 113, 114
  Ph.D.'s in 32, 33
Accountants 50-51
  Federal 93-95
  Starting 2, 4, 5, 8, 9
Actuary
  Federal 93
Administrators
  Academic 98, 116, 118, 119
  Engineering 70, 71, 116
Agricultural Scientists 26-31
  Academic 109
  Ph.D. 32-43
  in R & D 41-46
  Starting 4, 5, 17, 18
Anthropologists 26-31
  Academic 109
  Federal 93
  Ph.D. 32-43
  Starting 18
Architects 90
Astronomers
  Federal 91
  Ph.D. 32-43
  Starting 18
Atmospheric Scientists 26-31
  Academic 108
  Federal 91
  Ph.D. 32-43
Attorneys 50-51
  Academic 119
  Federal 93-95

B
Biochemists, Starting 18
Biological Scientists 26-31
  Academic 109, 110
  Federal 91
  Ph.D. 32-43
  in R & D 41-47
  Starting 4, 5, 8, 17, 18
Business
  Academic 110, 119
  MBA 10
  Ph.D. 32, 34
  Starting 1, 2, 4, 10

C
Chemists 24, 26-31, 50-57
  Academic 97, 108, 110, 112
  Federal 91, 94, 95
  Ph.D. 32-43
  in Public Health 61
  in R & D 41-47
  Starting 2, 4, 6, 8-14, 17-18
Communications Specialists
  Academic 119
  Federal 93
Computer Operators 50, 51, 58, 59
Computer Scientists 26-31, 58, 59
  Academic 108
  Federal 93, 95
  Ph.D. 32-43
  in R & D 41-46
  Starting 1, 4, 9, 10, 18

D
Data Processers 25, 58, 59
  Federal 93
Deans, Academic 119
Dentists
  Academic 119
  Federal 92
Drafters 50-51
  Federal 90, 94, 95

E
Earth Scientists 26,31
  Academic 108
  Federal 91
  Ph.D. 32-43
Economists 5, 10, 18, 22, 26-31
  Academic 109, 110
  Federal 93
  Ph.D. 32-43
  in R & D 41-46
Engineers 26-31, 50, 51, 62-81
  Academic 97, 109, 110, 116, 119
  in Administration 70, 71, 116, 119
  Consulting 69, 71-73
  Design 67, 71, 77, 80
  Federal 90, 94
  IEEE 78-81
  in Manufacturing 63, 74, 76, 77, 80
  Ph.D. 32-43, 68, 70, 72, 75, 78
  Professional 62, 69, 70
  in R & D 41-46
  Self-Employed 73
  Starting 1, 2, 4, 10, 17, 18
  Trends 69
  Type of Industry 65, 67, 74, 77, 81
Engineers, Aeronautical/Astronautical 23, 26-31
    Federal 90
    PE 69, 70
    in R & D 41-46, 48
    Starting 4, 5, 17
Engineers, Agricultural 69, 70
  Federal 90
Engineers, Biomedical
  Federal 90
Engineers, Ceramic, Federal 90
Engineers, Chemical 26-31, 52-57
  Federal 90
  PE 69, 70
  in R & D 41-46, 48
  Starting 1, 2, 4, 5, 8, 9, 11-14, 17
Engineers, Civil 26-31
  Federal 90
  PE 69, 70
  Starting 1, 4, 5, 8, 9
Engineers, Electrical/Electronic 26-31, 64
    Federal 90
    in IEEE 78-81
    PE 69, 70
    in R & D 41-46, 48
    Starting 1, 4, 5, 8, 9, 17
Engineers, Industrial 63, 75, 77
  by Employer Type 74
  Federal 90
  PE 69, 70
  in R & D 41-46, 47
  Starting 4, 5, 8
Engineers, Materials
  Federal 90
  in R & D 41-46
  Starting 17
Engineers, Mechanical 26-31
  Federal 90
  PE 69, 70
  in R & D 41-46
  Starting 4, 5, 8, 9, 17
Engineering, Metallurgical
  PE 69
  in R & D 41-46
  Starting 4, 5, 17
Engineers, Mining
  Federal 90
  PE 69
  in R & D 41-46
  Starting 4, 5
Engineers, Nuclear
  Federal 90
  Starting 4, 5
Engineers, Petroleum
  Federal 90
  PE 69
  in R & D 41-46
  Starting 4, 5
Engineers, Sanitary
  Federal 90
  PE 69, 70
English Faculty 110
Environmental Scientists 26-31
  Academic 108
  Federal 91
  Ph.D. 32-43
  in R & D 41-46

F
Faculty 96-120
  Business 110, 119
  Chemistry 97, 108, 110, 112
  Communications 119
  Computer Sciences 108
  Engineering 66, 70, 71, 97, 98, 109, 119
  Environmental Sciences 108
  Foreign Languages 110
  Humanities 119
  Legal 119
  Life Sciences 109, 110
  Mathematics 97, 108, 113, 114
  Medicine 102, 109, 119
  Ph.D.'s 22
  Pharmacy 97, 115, 119
  Physical Sciences 108, 110
  Psychology 97, 109-112
  by Rank 99-105
  Social Sciences 109, 110
  by State 106-197
Food Scientists
  Federal 91
  Starting 18
Foresters
  Federal 91
  Starting 18
Foreign Languages, Faculty in 110

G

Geographers
  Federal 93
  Starting 18
Geological Scientists 26-31
  Federal 91
  Starting 5, 8, 18
Geophysicists
  Federal 91
  Starting 18
Government
  Compared to Industry 95
  Engineers in 66-68, 71-73
  Engineering Technicians in 85
  Federal 87-94
    General Schedule 88, 89
  Ph.D.'s in 32, 35

H

Health Professionals
  Federal 92
  in Public Health Labs 60, 61
  Starting 4, 5
Hospital Administrators
  Federal 92
Humanities
  Faculty in 119
  Starting Salaries in 4, 9

M

Manpower Characteristics System of National Science Foundation 22
Mathematicians 26-31
  Academic 97, 108, 113, 114
  Federal 93
  Ph.D. 32-43
  in R & D 41-47
  Starting 3-5, 8-10, 16-18
Medical Scientists 26-31
  Academic 102, 109, 119
  Federal 92, 95
  Ph.D. 32-43
Metallurgists
  Federal 91
  in R & D 47
  Starting 4, 5, 8, 9
Meteorologists 26-31
  Federal 91
  Ph.D. 32-43
  Starting 18
Microbiologists 61
  Federal 91

O

Oceanographers 26-31
  Academic 108
  Federal 91
  Ph.D. 32-43
  Starting 18

P

Pharmacists
  Academic 97, 115, 119
  Federal 92
Ph.D. Scientists and Engineers 32-43
Philosophers, Academic 110
Physical Scientists 26-31
  Academic 108
  Federal 91
  Ph.D. 32-43
  Starting 4, 5, 8
Physicists 26-31
  Academic 108, 110
  Federal 91
  Ph.D. 32-43
  in R & D 41-47
  Starting 2, 15, 17, 18
Political Scientists, Starting 18
Psychologists 26-31
  Academic 97, 109-112
  Federal 93
  Ph.D. 32-43, 109
  Starting 18

R

Range Conservationists, Federal 91
in R & D 22-24, 41-49
  Engineers 67, 70, 71
  Engineering Technologists 86
  Ph.D.'s 32, 36
  Starting 3, 17

S

Secretaries 50, 51, 93, 95
Sociologists 26-31
  Academic 109, 110
  Federal 93
  Ph.D. 32-43, 109
  Starting 18
Social Scientists 26-31
  Academic 109, 119
  Federal 93
  Ph.D. 32-43, 109
  Starting 1, 5, 17, 18
Starting Salaries 1-21
  Federal 7, 94, 95
  by Functional Area 6
  in Manufacturing 6, 7
  in Nonprofit 7
  in R & D 3, 17
  in State & Local Government 7
  SEE ALSO INDIVIDUAL FIELDS
Statisticians 26-31
  Academic 108
  Federal 93
  Ph.D. 32-43

T

Teachers 97-120
  Elementary & Secondary 98, 120
  Ph.D.'s 22
  SEE ALSO FACULTY
Technicians
  Engineering 50, 51, 82-86
  Federal 90-95
    Biological Science 91
    Health Science 92
    Laboratory 61
    Math 93
    Medical 92
    Physical Science 91
  Starting 20, 21
  Type of Employer 94, 85
Technologists
  Engineering 4, 5, 19, 82, 83, 86
  Medical 92